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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

G. F. STOUT,

WITH THE CO-OPERATION OF PROFESSOR H. SIDGWICK, E. CAIRD, DR. VENN, DR. WARD, AND PROFESSOR TITCHENER.

NEW SERIES.

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OF

PSYCHOLOGY AND PHILOSOPHY.

I.—THE RELATION OF SOCIOLOGY TO PHILOSOPHY.

By B. Bosanquet.

1. Nothing could be more startling *primâ facie* to the philosophical student than the proposition that the science of society is a creation of strictly modern thought; of thought, that is, not merely recent in time, but determined by distinctively modern conditions and owning no continuity with the central tradition of European philosophy. Yet this was undoubtedly the view of Auguste Comte; it was implied by Mill in the sixth book of the *Logic;* and the same standpoint reveals itself in the independence and isolation which Sociology, or *la Science Sociale*, maintains to-day as against Plato and Aristotle on the one hand and their modern representatives—*e.g.*, Spinoza and Hegel—on the other.

It is not my intention, in the following observations, to challenge the claims of Sociology to an origin and existence independent of Ethical or Social Philosophy; my purpose is rather to suggest an analogy in accordance with which this independence may be justified on the basis of a definite relation between the two types of theory. Certain traits of parallelism and even of convergence will, however, necessarily disclose themselves as between lines of investigation so closely akin. And each, it will appear probable, may have something to learn from the other.

2. What is the essence of the new science, as Comte repeatedly and emphatically calls it, which he regarded as Social Physics, and for which he invented the name of

Sociology? The philosophical principle of the science is "that social phenomena are subject to natural laws, admitting of rational prevision".[1] The essential novelty of the conception in its author's eyes was, in short, that there could be, in the strict sense, a general science of social phenomena; that natural laws of progress could be ascertained, and that the science of society could thus take its place as part, and the most important part, of the indivisible organism of real and natural knowledge. The present is big with the future.[2] This enunciation of the principle of continuity, drawn from Leibnitz, is adopted by Comte as expressing the true spirit of social dynamics; and is interpreted by him as involving the idea that the social movement is subject to invariable natural laws rather than to any will whatever. A general theory of the co-existence and succession of social phenomena according to "natural" laws—such is the ideal, the need and the aspiration to which Comte gave form and currency under the name of Social Science, Social Physics, or Sociology.

Philosophy has entered upon the study of man in society from a different point of view. According to the simile of Plato, which has never ceased to be applicable, the philosopher has tried to read in society the larger expression of what man—the individual man—has it in him to become, and therefore of what he really is. He has investigated the state, or the social whole, as he has investigated other achievements and expressions of the human mind, in order to learn in its doings what that mind really is and what are its powers of self-assertion or its necessities of self-surrender in face of its human and its natural environment. There is always a bias in his research, or at least a definite problem before him. He tests the life of man by its relation to reality, by its harmony, comprehensiveness and coherence. He wants to ascertain how the highest life exhibits itself in the social organisation, or what elements have been contributed by the great nations of history to the fulness of human nature, or how the natural surroundings of a race have stimulated its expressive or constructive activity. The philosopher has dealt, by preference, with what have commonly been accepted as the highest types of civilisation, and has drawn in the less mature phases of evolution and the action of material and economic influences mainly as accessory considerations. It is needless to labour the contrast further. I proceed to point out its consequence.

[1] Martineau's *Positive Philosophy*, ii., 62. [2] *Ib.*, p. 69.

3. Sociology, as contrasted with those branches of Philosophy proper which deal in any way with the facts of society, pretends to the width and impartiality of a natural science. The laws of aggregation and of the behaviour of aggregates as such, though restricted by limitation to social aggregates, under whatever definition of the term "social" commends itself to the investigator, are the problems with which it deals. It has no primary reason for taking a greater interest in the Greek city or the nation of modern Europe than in the varied and unfamiliar phases of savage or barbarian life. It does not confine its investigations to the State or the civic society, but wherever two or three are gathered together there is a problem such as may be proposed to sociological analysis. The employment of comparison between human society and relations found to exist in groups of the lower animals is, as we might expect, vigorously defended by Comte, and in the hands of Mr. Herbert Spencer has formed the bulk of sociological inquiry. So far, indeed, as impartiality or neutrality is really observed we have no right to impute to Sociology as such the tendency to explain what are commonly held to be the higher forms of life by reducing them to the level of those which are commonly held to be the lower. But some result of the kind has undoubtedly characterised the social science so far as it has hitherto been developed; and the reason is not far to seek. An impartial science dealing with very general forms of behaviour—we might take chemistry as an example—will give a more complete account of objects in which those forms of behaviour are presented *per se* than of those in which they assume complications subservient to some further type of unity. Chemistry can say something of all material substances; but it can say less, in proportion, of those which have biological significance. And so the most general treatment of the laws of grouping of living creatures has more in proportion to say of groupings in which no very complex self-realisation of the human mind is manifested than of those which involve all the functions of the human spirit at its best. And thus, quite apart from any set purpose of dragging down what pass as the higher manifestations of humanity, it results *ipso facto* that an account is given of them in terms which, while adequate to certain simpler phenomena, are not adequate to them. One can hardly get over Mr. Herbert Spencer's characterisation of a human society as a local variety of the species, a description which appears to disregard all the elements by which it is made social and human.

But the wise application of such an impartial theory to problems which tend to become isolated in their dignity has very great advantages. The mere fact signalised above, that for Sociology the State ceases to be the sole form of social unity, is typical of these advantages. For the State is nothing but an expression of certain needs and aspirations of mankind; it is itself capable of many degrees of existence, and if it is the highest revelation of social unity it can only be known as such when duly correlated with all others. A general or indifferent theory is a solvent which destroys the rigid limitations of traditional thought and sets us free to contemplate the unity of life in its continuous endeavour after self-expression.

Whether the impartiality or indifference which has hitherto characterised Sociological analysis is really essential to it appears to depend on the question whether the general laws of social behaviour differ in kind or only in degree from the characteristics which give interest to the object matter of political, historical, ethical and religious philosophy. The point of view taken by M. Bernès[1] seems to recognise a double tendency in the body of science, such that the purely speculative—or, in our language, the indifferent—nature of mathematics finds its complement at the other extreme of the series in what for him is the practical spirit of Sociology; the intermediate group of the "natural" sciences being, as I understand him, the chief meeting-ground of these two tendencies, neither of which can be wholly absent in any scientific endeavour. It is a detail of terminology that M. Bernès' phrase "practical" seems to me to approach in actual significance the philosophical expression "speculative". It means, as I read him, not the spirit of an art devoted to immediate action, but rather the spirit of a philosophy which divines, through the will no less than through the intellect, the impulse and the indications of a partially unrealised unity in the world, which demands realisation. If Sociology admits to itself the scientific validity of such an impulse and the demands of such a unity, and applies itself to the discovery of laws and forms which shall be capable of doing justice to this recognition in the comparative treatment of social aggregates and functions, then the course which it has hitherto pursued will have been considerably modified, and the distinction which separated it from Philosophy will in all essentials have been done away.

[1] *Revue de Morale et de Métaphysique*, March, 1895.

It is possible, I think, to exhibit this distinction, and its vanishing quality, in a striking light, by what is something more than a mere illustration. Not only may Sociology be compared with Psychology in its relation to Philosophy proper, but in a great measure, as we shall see, the relation in the two cases is actually the same. For Sociology, in its later developments, seems likely to be regarded as a psychological science.

Thus the relation of Psychology to Philosophy reproduces in many respects that of "Social Science" to the Philosophy of Society. Like Sociology proper, Psychology in the strict sense is a science of modern origin. Like Sociology, it assumed at first the position of an extension of the natural sciences to a field hitherto denied to them, and proclaimed itself to deal, not with the value or significance of special intellectual phenomena, but with the general and causal laws which governed the operations of mind. The impartiality or speculative neutrality which we observed in early Sociology is claimed with startling emphasis even by the most recent Psychology. All revelations of mind, we are told, are of equal interest and importance for Psychology as such. It is not their grade in reality, but their exemplification of psychical laws and causes, which entitles them to psychological consideration.

And the very terminology of Psychological Science appears to confirm the comparison here suggested, both in respect of the primary relation of Sociology to Philosophy and in respect of the possibility of a further one. The Laws of Association, with which modern psychology began, and in which, for a great part of its course, it has principally consisted, might serve for a designation of the general problem of abstract Sociology no less than of the general problem of abstract Psychology. So long as either science restricts itself to the consideration of the abstract conditions of any cohesion whatever, so long as the simplest connexion of units is as good an object for it as the great organised structures of civilisation, the indifference which belongs to it as a purely natural investigation remains unimpaired. And the strict definition of Psychology undoubtedly demands this indifference. In dealing with the mere course of psychical events, it makes abstraction from the relations to reality which constitute the essence of Logic or Ethics, or other branches of Philosophy. Just so, as we have noted, Sociology as such is indifferent whether the grouping, with which its Laws of Association are concerned, consists of a civilised state or a savage horde, of a Christian family or a polygamous community.

But the further tendency which has suggested itself in Sociology has already taken shape in Psychology. It has been found possible, by a recognition of the more definite facts of mental organisation, to come closer to the operations of developed intelligence than could be effected by the Laws of Association alone. The Theory of Apperception, in its modern form, is to the Laws of Association what an explanation of special machines is to a general account of the working of mechanical parts. It still, indeed, remains ostensibly within the province of Psychology; but it recognises that though the reality which we think of may not fall within the mind, yet the mind is very different according to the reality which it thinks of.[1] The science, then, may still claim to maintain its speculative impartiality; but this is no longer to be understood as more than the universal justice of reason. For it cannot any longer be said that the terms in which the highest phenomena are explained are such, without modification, as sufficed for the analysis of the lower. No doubt, indeed, it will always be convenient that Psychology as such should not pretend to absorb into itself the whole range of philosophical sciences, and therefore that it should maintain on the whole the peculiar abstraction which excludes the relation to reality from its view. But the line of this abstraction will always tend to be a vanishing one; and Psychology, armed with the theory of Apperception, will tend to be the science, not merely of any and every mind, but of mind where it is most mind, because best and most typical.

The same relation may be predicted for Sociology. There will always no doubt be a difference in point of view, according as we approach the study of "association" from the side of anthropology or of zoology, or from any member of the linked circle of philosophical sciences, which attempt to bring together what is most profoundly real in the world. But as social science acquires command over its material and its conceptions, and as the mere unity of all phases of social existence ceases to be a novelty worth insisting on, it will recognise a gradation and a tendency, and find means to distinguish, on its own ground, the social forms in which development is fullest from those in which it is most meagre. In as far as it succeeds in this, it will assume towards the Philosophy of Society the same general attitude which Psychology holds towards Logic, Ethics, and Æsthetic; and will be able to render services of the same class.

[1] Mr. F. H. Bradley has somewhere a sentence to this effect.

4. In the present condition of Sociology it appears needless to insist on that difference of method between social science and Philosophy which has arisen from a confusion between the claims of intelligence to deal rationally with social phenomena, and the idea that "subjection to natural law" or rational coherence implied causation of the same type as natural causation. It is worth while, however, to point out that on this aspect of social problems—the relation of man to his environment, or the degree in which man is the creature of circumstance,—the new social science had much to learn from the ethical and political philosophy of Plato and Aristotle. The distinction between determination by law and determination by the presentation of law, and the relation of the conscious motive embodied in a political order to the facts and modes of behaviour existent in natural surroundings and economic arrangements, are stated with perfect balance and clearness by Plato and Aristotle. Many one-sided constructions of social causation might never have been attempted had due attention been paid to their ideas.

On the other hand, it is of interest to note that the force of facts appears to be determining Sociology to the position of a psychological science, as indeed Mill, in the sixth book of the *Logic*, fully intended it to be. The Psychology of Crowds, the idea of Imitation as the ultimate characteristic of Social Wholes, or the conception of the Consciousness of Kind as the central attribute of Society, bring us into contact with ideas with which political or social philosophy has long been accustomed to work. But while we recognise in these notions an approximation to philosophical thoughts, we cannot but wonder that so little use should be made by Social Science of the resources to which it now seems to hold the key. The psychology of a crowd is not even the psychology of a committee, much less of a representative assembly or of a great state. The working of an organised psychical unity of this kind has at least been more suggestively sketched by Plato in his commonwealth or by Aristotle in his idea of the thinker's function, than by any modern Sociologist. Yet M. Bernès, I observe, rests altogether on the commonplace and popular view of Aristotle's notion of the thinker's life.

Imitation again is a bald and partial rendering of that complex reciprocal reference which constitutes social co-operation. To say that imitation is the characteristic of society is like saying that repetition is the soul of design, whereas even symmetry is incompatible with a principle so elementary as repetition. If one man holds a hammer on a rivet and another strikes it, that is conscious

reciprocal reference, but not imitation; and this doing of different things, as parts in a single plan, is the type of social co-operation. The whole idea of function, of structure and organisation—in short, of true identity in difference—seems to be absent where such a suggestion is made. It seems probable that Sociology has arrived at these conceptions by re-traversing on its own account the track which leads from the apparent individual mind to the real identity of the universal self; a track long familiar to philosophy, but one on which "social science" *par excellence* is only now arriving at the earliest halting-places. The same observation might be made with regard to the "Consciousness of Kind,"[1] which appears to be a faint and generalised counterpart of that recognition of oneself in another, to which Hegel long ago gave an explicit rank in the development of self-consciousness, thus laying down the place of social relations in the growth of mind.

And in conclusion, while welcoming the unity of science as proclaimed by Comte and the conception of a probable influence of Sociology on scientific method as suggested by M. Bernès, one is amazed to find any such conception announced (as Comte more especially announces it) to be new in principle.

We seem to have forgotten that for Plato, *e.g.*, *Laws*, 967 E, it was an essential principle that politics was a science; that political forms corresponded to types of mind; that the central light of all science, including the mathematical science, was the idea of the good, and that no one who had not mastered the connexion that runs through the order of the universe, and its bearing on society and institutions, was fit, in his view, to be a ruler of men.

It hardly seems possible that, at the point which has now been attained, a distinction between Sociologists and Philosophers can any more justify itself than a distinction between Philosophers and Psychologists. It does not follow that the retention of a more general analysis and a more indifferent point of view may not be of service in the actual treatment of the sciences in question. We have seen that such a general analysis is a valuable solvent of distinctions which impede the perception of continuity; but while retaining for this purpose the modern and naturalistic spirit of his science, the true Sociologist, like every great Psychologist, will recognise, indirectly if not directly, the grades of value and of reality, the logical and ideal structure, which belong to certain cases and complications of the very general laws with which he primarily deals.

[1] Giddings' *Principles of Sociology.*

II.—ON THE INTERPRETATION OF PLATO'S *PARMENIDES*. (III.)

By A. E. Taylor.

Hypothesis 3. If the second hypothesis is the most elaborate and difficult, the third, which is in substance a continuation of the second, may be said to be the most perplexing part of the dialogue. It is not that there is any difficulty of interpretation; the argument is simple, straightforward, and entirely free from the taint of more or less conscious sophistication which hangs about some steps of hypothesis 2. But the very serious difficulty which besets this new hypothesis is the difficulty of seeing how it in any way adds to the understanding of the puzzles about unity and diversity. Viewed as an analysis of the conception of "change" the passage has much acuteness and value, but it is hard to see how it advances our knowledge of the nature of unity and plurality beyond the stage we have already reached. It seems almost as if Plato, having once been led by the recognition of motion and change as somehow qualifying reality to the analysis of the notion of change itself, found himself unable to resist the temptation to set out the puzzles and contradictions it involves at length, in spite of the interruption of the main argument of the dialogue which this proceeding entails. For, while it is manifest that these two pages of Plato already contain in a more condensed form the substance of what Aristotle was afterwards to say on the same subject in *Physics* 5, it is equally clear that the episode is an artistic blemish. This hypothesis absolutely refuses to fit into the antithetical framework upon which the others are constructed; in order to set out the whole of the hypotheses in symmetrical form as antinomies it is necessary with Zeller in the *Platonische Studien* to treat 3 simply as a further development of 2, while yet Plato himself formally closes 2 at 155 E and opens the new argument with the express assertion of its independence, ἔτι δὴ τὸ τρίτον λέγωμεν. Thus what is in

content a mere footnote to the foregoing antithesis is in form treated as an independent hypothesis, and the dialogue is made richer by a valuable piece of analysis at the expense of its artistic and logical unity.

The point from which we now start for the third time is the conclusion reached by our last discussion. We are to consider certain further consequences of the doctrine we have been led to affirm about the One. We have seen that it both is and is not one and many; we have now to ask in what precise way we are to understand this rather enigmatic result. The negative part of the premise from which we set out is, it should be remarked, merely an extension and restatement of the positive; it has nothing to do with the negative conclusions of 1 which were expressly rejected by Plato at 142 A. The non-existence of unity which is here assumed is not the absolute non-existence of the first hypothesis, but only such relative non-existence as is involved in the result that the One is also a plurality. The following reasoning, about the metaphysical assumptions of which it is certainly possible to feel some misgiving, has at any rate the merit of making it clearer than ever that Plato does not conceive his union of contraries in an Hegelian sense. For he goes on to argue that if the One is both a unity and a plurality, and if, as has been already admitted, it appears in time, then the two sides of it, the unity and the plurality, will fall temporally apart. The One "partakes of reality"—he argues—in so far as it is, and is one; it "partakes of unreality" in so far as it is many, or as the Many are real. It is therefore evident that the two phases of its existence are distinct in time. "It is real at one time and unreal at another, for that is the only way in which it can be both real and unreal" (*ἐν ἄλλῳ ἄρα χρόνῳ μετέχει καὶ ἐν ἄλλῳ οὐ μετέχει κτλ*). And consequently there must come moments in its history at which it is passing through the transition from unity to plurality, from actual reality to such unreality as is implied in the reality of the many. That is, it undergoes the process of coming into and passing out of being (*γένεσις* and *φθορά*). The same considerations will apply to each of those pairs of contradictory predicates which we have seen reason to ascribe alike to the one reality. Its appearances as qualified by each of these opposites will fall into successive portions of time, and there will thus be moments at which the One will be undergoing all the different forms of change enumerated by Aristotle; it will pass through "expansion" and "contraction," "assimilation" and "dissimilation," "in-

crease" and "decrease," it will change from motion to rest and from rest to motion (156 B). And so far, though we have not really added to our stock of knowledge about the One anything beyond what was partly implied and partly openly stated (*cf.* ἐγίγνετο καὶ γίγνεται καὶ γενήσεται, 155 D) in the last hypothesis, we seem to have been fairly faithful to the original subject of discussion. It is in the passage which immediately follows that Plato (156 D-157 B) suddenly introduces a new subject which is in itself of high importance though its connexion with the discussion of the One is very loose. This subject is then disposed of in a few lines and is never referred to again in the rest of the dialogue. This important and novel subject is the conception of an unextended temporal point, the "Instantaneous" (τὸ ἐξαίφνης) as Plato names it. We know of course from Aristotle how difficult the Greeks found it to think of a point, whether of time or of space, as having no extension, and it is, I imagine, not unlikely that this problematic conception of a moment of time which without having duration yet occupies a definite position in the time series was introduced into philosophy for the first time by the present passage. Plato here, as in the similar case of his tentative account of abstract space in the *Timæus*, marks his own sense of the difficulty and novelty of the conception he is trying to illustrate by the terms in which he speaks of it; it is twice over "this enigmatic notion" (τὸ ἄτοπον τοῦτο, *cf. Tim.* 49 A, χαλεπὸν καὶ ἀμυδρὸν εἶδος . . . 51 B, μεταλαμβάνον ἀπορώτατα πῃ τοῦ νοητοῦ καὶ δυσαλωτότατον of space). Necessary as the conception of the "Instantaneous" is if we would think of change at all, it is indeed so strange and hard to grasp that the general tendency of thinking, even in modern times, has been to ignore it as far as possible. We have learned from natural science that behind every visible and apparently instantaneous change there lies a history of gradually accumulating unseen inner modifications, and we have come to treat *natura nil facit per saltum* almost as a philosophical axiom; it is not till we begin to take the task of analysing our own conceptions in earnest that we discover that the notion of an instantaneous transition, paradoxical as it is, cannot be dispensed with without making all change impossible—*furca expellas, tamen usque recurrit.* On the passage before us, in which this momentous conception makes its first appearance in philosophy, there is no need to linger. The argument proceeds straightforwardly enough as follows: The transition which we have seen it necessary to

ascribe to the Real from one state or quality to its opposite cannot be spread over an actual duration, for then the same object would possess opposite qualities during the same piece of duration, and this is for the Plato of the *Parmenides*, as for the Plato of the *Republic* (436 B), a manifest impossibility. We are thus compelled to think of the transition as taking place in an unextended moment; there will be, so to speak, a point of indifference midway between motion and rest which occupies no duration (*ἐν χρόνῳ οὐδενὶ οὖσα*), and it will be at this zero-point where the motion *e.g.* is over and the rest not yet begun that the transition takes place. And we may apply the same idea to all the forms of change which we have recognised as predicates of the real. In each case the change must be thought of as involving such a moment of transition at which the object is between two states, one of which is over and the other not yet begun. We may therefore add to the list of contradictions in which we have involved the one reality this further one, that while it possesses in succession all manner of conflicting predicates at the moment of transition from one to another it possesses neither (157 B). Thus the hypothesis ends at least formally by bringing the novel conception of the "Instantaneous" to bear on the problem of unity and diversity. But it is clear that for Plato's purpose, which is to prove that the various pairs of predicates enumerated can be denied as well as affirmed of the One, there was no necessity for an elaborate investigation into the metaphysics of change. It would have been quite enough in each case to go, as he does in the case of unity and diversity at 155 E, straight from the affirmation under certain conditions of both sides of a contradiction to the denial under proper restrictions of each. So that, as I said before, the appearance of this hypothesis is best explained by the assumption that Plato wished to illustrate a conception which he felt to be at once novel and important, even at the cost of a conscious digression. But the most important peculiarity of this hypothesis, from our point of view, is its distinct assertion that the only way in which contradictory predicates, such as those with which we have been dealing in the last hypothesis, can alike attach to reality is the way of succession in time. Our natural inclination was to see in the contradictions of that argument at the least an adumbration of that modern theory which makes contradiction and strife, in a deeper sense than that of Heracleitus, the heart of reality. We are here, however, unmistakably taught that Plato advocates such a union of opposites as is from the Hegelian point of view merely

"external". The demonstration that the same reality has as its predicates both rest and motion means then for Plato in the *Parmenides* not, as it might for a disciple of Hegel, that at the same time and in the same relation both are true of the same object, but only that the one is as real of the same subject at one time as the other is at another. The common reality is qualified by both predicates not as possessing them both at once and in inextricable combination, but as being bound to manifest sometimes one, sometimes the other. It might perhaps be questioned whether one or two of the demonstrations of 2, notably the proof that unity, even when considered in abstraction from reality, of itself involves the existence of a plurality of numbers, and the establishment of the intimate connexion between identity and difference, at p. 147, do not imply a closer union of opposites than the third hypothesis seems to contemplate; but in that case we can hardly do more, in the face of Plato's explicit declaration, than credit him with the discovery of a principle which reaches further than he was aware.[1] And if we will remember that οὐσία for him in this dialogue sometimes has the special sense of *present* reality (141 E, 152 A), we can see that even a Hegelian may up to a certain point admit his contention. For, as far as present appearance goes, it is clear that only one of the contrary predicates can make itself felt at the same time. The other may be there, but it is at best concealed and implicit and must wait for a favourable opportunity to take its turn of ascendency—*e.g.*, space may be both continuous and discrete, the same object both in motion and at rest, both one and many; but at any given moment what asserts itself as present perceived reality will be one side of the antithesis only; the other side which is not forced upon our notice by present perception is after all only latent, and has to be discovered by subsequent reflexion. So that there is real force in Plato's contention that opposites, in whatever way they may co-exist, can only make their equal reality felt by taking it in turns to dominate experience—that is, by transition from the one to the other in time. In the case of the ultimate relation between unity and plurality indeed we should be led, if we followed

[1] The Hegelian would not improve his position by an appeal to the well-known encomium on Heracleitus, *Soph.*, 242 E. For all that that passage asserts is that the transition from unity to plurality with which hypothesis 3 deals is perpetually taking place. *Soph.*, pp. 255-56 (on κίνησις and στάσις), are fully in accord with the *Parmenides* and *Republic*.

up this train of thought, to the vexed and difficult question whether Plato does or does not mean to assert the origin in time of the sensible world. The discussion of this point would involve the detailed consideration of the *Timæus* and would lead us very far from our present field of inquiry; we may therefore leave it on one side with the remark that the presuppositions of the present passage, taken by itself, would naturally lead to the affirmative answer to the question. And this concludes what I have to say on the third hypothesis.

We have now closed our direct investigation into the conditions under which unity can be real, and we proceed to strengthen our convictions as to what those conditions are by a double inquiry into (*a*) the consequences which the affirmation of either conception of the One entails with respect to the attendant plurality, (*b*) the consequences which will follow, both for the One and for the Many, from the denial of each.

(*a*) If the One exists what can we say of the Many? This question is twice answered, in hypotheses 4 and 5; in the first case from the point of view of hypothesis 2, in the second from that of 1. And in the results of the inquiry we find complete confirmation of the conclusion at which we have already arrived. Once more we discover that on the one conception of what the world's unity implies affirmation and negation are alike possible, on the other alike impossible. We will proceed to set out the rival arguments, in which, after our study of what has gone before, we shall find no serious difficulties

Hypothesis 4 (157 B-159 B). *If unity is real, what about plurality?* Our assumption is once more, as in 2, simply that unity is one predicate of a reality which can be otherwise determined. Thus the hypothesis does not deny, but rather for us who have the results of 2 fresh in our memory, affirms by implication the equal reality of multiplicity. We assume then that the Many of which we speak are *real*, and from this we go on to ask if we can say anything more definite about them. And we may say at once that while the Many are not absolutely identical with the One, yet they do not entirely fall outside it (*οὐδὲ μὴν στέρεταί γε παντάπασι τοῦ ἑνὸς τἆλλα ἀλλὰ μετέχει πῃ*, 157 C). Their diversity can no more exist apart from unity than the unity of the Real apart from diversity. For we must conceive of the "Manifold" as of a number of parts forming a whole. And the whole which is constituted by the manifold parts must be itself a unity. The parts are parts not of an indefinite

plurality but of a single all-embracing whole. The argument which yields this result, though perfectly intelligible, is rather obscurely expressed, and has been most unjustly branded by Stallbaum with the name of fallacia, so that it may be as well to reproduce it *in extenso*. Each part, we say (157 D), must be part not of a mere multiplicity but of a single whole. For it is easy to see that if the multiplicity of which the unit is taken to be a part does not in some way form one coherent whole, the only way in which the unit can be a part of it is by being a part of each separate unit which is contained in it, and so, among others, of itself. Thus you have to meet a dilemma. If the part be primarily a part of each of the constituents of the multiplicity *taken by itself*, you have of course conceded the point at issue; but if it be not a part of each and every separate constituent, then neither is it a part of them all taken together—on the assumption, that is, that all the constituents taken together form a mere plurality and not a single whole. This is of course at once manifest in any concrete case. Where one element appears to enter as a component into several independent systems, as, for instance, when the same man is a member of several unconnected organisations, it can only be part of them all because it is part of them each. Thus a man may be at one and the same time an English subject, a Roman Catholic and a Teetotaler, but he is only all three at once because he is also each separately. And so we may see, in any case we choose to take, that what is a "part" is always primarily and directly a part of some one definitely organised whole. Or, as Plato phrases it: "Every part is a part not of a diverse and heterogeneous multiplicity, but of some one single reality (μιᾶς τινὸς ἰδέας καὶ ἑνὸς τινός) which we call a whole, and which is a perfect unity constituted by all the parts".

Thus we may say of the manifold of existence, as of every lesser multiplicity, that it is "one complete whole of parts,"—or in a word that it, like the one reality of hypothesis 2, exists in the form of a system. And once more (157 E-158 A), not only is this true of the whole of existence but of every subordinate part in it. For when we speak of "each" part our very language recognises "each" as being itself a unity distinct from its companions. What is not "one" cannot be called "each". But again none of these parts is mere undiversified unity, for they all were by our hypothesis "other than unity" (τἆλλα τοῦ ἑνός). They are therefore not identical with it, and each "part" of the manifold, since it is neither a bare unit nor yet nothing at

all, is itself a manifold of lesser parts (*πλείω ἑνός ἐστι τά τε τοῦ ἑνὸς μορίου καὶ τὰ τοῦ ἑνὸς ὅλου μετέχοντα*, 158 B). And it follows at once that there can be no limit to this subdivision; the "parts" of the whole manifold are numerically infinite. For (158 C) each subordinate part of the manifold being itself the combination of unity and multiplicity, if we take any the least part we please and make abstraction from its aspect of unity (*σκοποῦντι αὐτὴν καθ' αὑτὴν τὴν ἑτέραν φύσιν τοῦ εἴδους*, *sc.*, the side of diversity), we shall find that it contains in itself an indefinite plurality (*ἄπειρον ἔσται πλήθει*). Yet on the other hand each part is *one* part contributing its particular share to the life of the whole, and is thus wrought into definite systematic relations (*πέρας ἤδη ἔχει*) to the other parts and to the whole. So that the multiplicity which considered in abstraction from the unity it derives from its relations to the whole, is without limit, receives from its position as one element in the single whole that character of definiteness and limitation which would otherwise be foreign to it. It is in fact at once infinite in one sense and in another finite. So the Manifold turns out to be that very systematic whole of subordinate systems with which we have already in hypothesis 2 identified the One. Each side, as Hegel might have said, is discovered to be itself and its complement in one: from whichever side of the antithesis you start you find in the end that it contains the whole. It is now, of course, a mere matter of the detailed following up of our main result to show that each and all of the affirmative and negative judgments which we have vindicated for the One can also be made about the Many. They are like and yet unlike themselves and one another. For in so far as each and all have the same quality, *e.g.*, infinite divisibility, they are alike, and again in so far as they have antagonistic qualities they are unlike. And we may say in one word now, and without troubling ourselves to go over the ground once more in detail (159 B), that every result which we have proved for the One can by the same process be shown to be true of its complement. We may then, I think, sum up the argument of this hypothesis in one sentence, thus: As we rescued the real One from non-existence and unknowability by proving that it contains diversity, so by the aid of the same principle we have now saved the actual multiplicity of the world from the same fate by showing that it forms a unity. Our next task, which we shall attack in hypothesis 5, is to establish the same conclusion negatively by showing that the severance of unity from diversity, which condemned the former to non-existence

and unknowability, necessarily consigns the latter to the same outer darkness.

Hypothesis 5 (159 B-160 B). We now take up the principle of hypothesis 1, and apply it to the consideration of the manifold, with the same consequences which there attended its application to the One. Once more we make, not the *reality*, but the merely *self-identical* character of these determinations our starting-point. Unity we are to take as unity, and never as plurality; plurality as plurality, and never as unity. From this basis our argument will proceed, as follows. To begin with, we must affirm the absolute severance (χωρίς, Socrates' old watch-word) of the One and the Manifold. For of each we can say that it is not the other, while the two taken together make up the totality of thinkable existence. There can be no third nature which falls neither under the head of the One nor under the head of What is other than the One in which both might inhere as predicates of the same subject, no neutral ground on which they might meet on terms of mutual forbearance (159 C). Still less can either appear in the domain of the other. For the absolute One, being One and nothing but One, can have no parts. The Manifold is therefore neither one as a whole—for that would be to identify what has just been pronounced absolutely different—nor is it made up of parts which are unities—for that is to subdivide and multiply what is, *ex hypothesi*, one and invisible. There is thus no conceivable sense in which unity can be predicated of the manifold; it can be neither a single unit nór a collection of units. And therefore it is not even a plurality, for every plurality is a sum of units. Nor is it only quantitative predicates which are excluded from τὰ ἄλλα by this conclusion. It is ultimately impossible to predicate anything whatever of the Manifold. For if any one universal predicate can be affirmed of them they have so far just that unity and stability which we have refused to ascribe to them; and if *both* sides of a contradiction be asserted of them (notice εἴδη with reference to ideas of *relation* at 159 E) they have it twice over. Thus *neither* side of any of the antitheses can be predicated, whether positively or negatively, of the Many. The Many because they have no unity, like the One because it has nothing else, are the merely non-existent and unknowable, and Plato is warranted in concluding (160 B) with a sentence which incorporates the result of hypothesis 1 with that at which we have just arrived. If unity be incompatible with other predicates, then "the One is at once everything and nothing, and the same is true of

the Many also".[1] And though Plato expresses neither approval or disapproval of this result, his identification of it with the conclusion of 1, justifies us in mentally adding what was there said in so many words, *ἦ δυνατὸν οὖν περὶ τὸ ἕν ταῦθ' οὕτως ἔχειν; οὔκουν ἔμοιγε δοκεῖ* (142 A).

Putting together the positive results of 2, 3, 4, and the negative results of 1 and 5, we may notice that there is up to a certain point a curious formal likeness between the two sets of conclusions. On either theory of the relation of unity to reality we have the result, as we have already seen, that each side of the antithesis of the One and the Many turns out to be identical with the other. But there is this difference, that in the one case this result harmonises with the presuppositions from which it is drawn, in the other it is in flagrant contradiction with them. And this also, that in the one case the One and the Many coincide because each is the same concrete system, in the other because each is the same empty nonentity. Thus we may urge against the upholder of an Eleatic or Megarian unity of the world the unanswerable argument: "Your own theory of the world involves as much as ours that mutual implication of opposites which you find so unthinkable: you will find yourself, if you will only reflect on your own assumptions, as fully committed as ourselves to the ultimate identity of the One and the Many. The difference between us is that *you* are further bound to identify them both with nothing, and such an identification is its own refutation."

(*b*) We may now turn to the second or negative series of hypotheses (6-9), which, as we shall find, correspond to the foregoing positive hypotheses in their treatment of the idea of the world's unity. Corresponding to the unqualified assertion of hypotheses 1 and 5, "the only thing that is real is the One," we shall have the equally unqualified denial, "the One is absolutely unreal," and this proposition is, as we shall see, discussed with reference to the One itself in hypothesis 7 and with reference to the Manifold in hypothesis 9. Corresponding to the modified assertion of 2, 3, 4, "Unity is one predicate of reality," we shall have a similar qualified negation, "Unity is not the only characteristic of the Real," or—what is the same thing—"Unity can be determined by negative predicates," and this is, as we

[1] We should surely accept Heindorf's conjectural addition of the words *καὶ τὰ ἄλλα ὡσαύτως* in this sentence. If we retain the vulgate we get the same sense, but the latter half of the conclusion is left to be inferred from the former.

shall find, the sense in which "not-being" is attributed to the One in hypotheses 6 and 8. Thus the relations of the two negative to the two positive premisses of Parmenides will be these: the qualified negation of 6 and 8 is compatible with, and is in fact the necessary complement of, the qualified assertion of 2, 3, 4, but is the contradictory of the absolute affirmation of 1, which it therefore excludes; the absolute negation of 6 and 9 is the contradictory of the modified assertion of 2, and the contrary of the absolute assertion of 1, and consequently excludes them both. Thus taking 1, 2, 6 and 7 each as representative of the pair of hypotheses to which it belongs, we may say:—

If 1 be *true*, 2 is false, 6 is false, 7 is false.

If 1 be *false*, *either* 2 and 6 are true *or* 7 is true.

If 2 be *true*, 1 is false, 6 is true, 7 is false.

If 2 be *false*, 6 is false, and *either* 1 *or* 7 must be true.

This table may be of use to us in fixing the point of view from which each of the negative hypotheses is conceived. We now proceed to examine and interpret each in detail in the same way as we have done hypotheses 1-5.

Hypothesis 6 (160 B-163 B). The sixth hypothesis is, after the second of which it is the inseparable complement, the most important contribution furnished by our dialogue to a positive theory of the relation between the world's unity and its multiplicity. It is also, owing to the uncertainty of the text at one or two critical points, the only one of the remaining arguments which presents the slightest difficulty to a reader who has already grasped the significance of what has preceded. I shall therefore follow the steps of the reasoning more closely than I have done in the case of any of the hypotheses since the second, and I must plead the necessity of the case as my excuse for thus prolonging an essay which has already attained a somewhat unreadable length. And first we must make sure that we rightly understand the meaning of the proposition with which we are starting, *εἰ τὸ ἓν μὴ ἐστί* and its relation to the *εἰ τὸ ἕν ἐστί* with which we have hitherto been concerned.

We start then from the proposition that "the One is non-existent". But the sequel makes it quite clear that what is meant is not that the One has no existence at all, but simply that it is not the only reality, and that it can consequently have negative predicates attached to it. This supposition can be stated in various ways, as *e.g.* "There is other reality besides the One," "the One can be negatively determined," and, in still more technically

logical language, "negative judgments need not be without significance". And thus regarded the non-existence of the One has already been implied in the conclusions of hypothesis 2. For there we saw that (*a*) the Many are real, as well as the One, (*b*)—another way of expressing the same truth—whatever can be affirmed about reality can also in an appropriate sense be denied of it. So that the discussion on which we are now to enter and its continuation in hypothesis 8 are of vital interest for our interpretation of the dialogue. For it is an independent investigation into the results of a presupposition to which we have already tacitly committed ourselves in rejecting the first for the second interpretation of the world's unity; and hence it is all-important for us to be convinced that from this negative as well as from that positive aspect of it our conception of that unity is compatible with the possibility of every form of significant predication. That it is so compatible we establish at length in the following way.

When we say "the One is non-existent" do we or do we not mean the same thing as when we say "the Not-one is non-existent"? It is of course clear that we mean entirely different things by the two propositions. Similarly, if one says "smallness" or "greatness" is non-existent he means something quite different from what is said in either of the two former judgments. So that we may say in general that the judgment "the One is not" is a judgment about a subject which is not identical with other subjects, and that this judgment has a meaning. We may lay it down at once then of the non-existent One, as of any other subject of a negative judgment, (*a*) that it is *known* and *knowable;* for otherwise the judgment would mean nothing, and (*b*) that it is something different from all other possible subjects of judgments; for the difference we assert between it and them belongs no less to it than to them. Or still more generally, we may say that like any other subject it has *quality* of its own and can therefore be denoted by the various demonstratives "this," "that," and that it has *relation* to other things and can thus be qualified by the prepositions which denote such relations, "to," "of," "from" (*καὶ μὴν τοῦ γε ἐκείνου καὶ τοῦ τινὸς καὶ τούτου*—quality—*καὶ τούτῳ καὶ τούτων*—relation—*καὶ πάντων τῶν τοιούτων μετέχει τὸ μὴ ὂν ἕν*, 160 E). Thus, though we still feel ourselves precluded from saying of the non-existent One that it *is* without further qualification, we may, and if we mean anything definite by the name One

we *must*, assert its "participation" in a great variety of attributes and predicates. While, if the subject of our negative judgment cannot be defined as the One nor yet as anything else which is a *that* with its own special "thatness" (εἰ μέντοι μήτε τὸ ἓν μήτε ἐκεῖνο μὴ ἔσται 161 A), we can make of course no significant statement at all about it, and are reduced to speechlessness (οὐδὲ φθέγγεσθαι δεῖ οὐδέν). We may now attempt to enumerate in detail some of the predicates which we have by this argument vindicated for the One. Among the most obvious are *likeness* and *unlikeness*. For we have already seen that the One, even though it be negatively qualified, is other than the rest of thinkable subjects. And being other it is qualitatively *different* (inference from ἕτερον εἶναι to ἑτεροῖον εἶναι), but what is different is of course unlike. Thus the One, even if it be not = the Real, stands in the relation of unlikeness to other things. Yet again, in another relation, the One has likeness. For it is clear that it cannot remain the permanent subject of discourse and inquiry without being throughout "like" itself, otherwise we should find ourselves discussing not the One but something other than the One. Again, the One is *unequal* to other things: were it equal to them, it would *be* and be *like* them, both of which qualifications we deny of it. It is therefore not equal to anything else and is positively *unequal* and "partakes" of inequality. But that which is unequal to other things is greater or smaller than they. The non-existent One can therefore be greater and smaller than other things, and "partakes of" *greatness* and *smallness*. Therefore, of course, since what is greater than A and less than B must be equal to something intermediate between them, the One may also be said to "partake of" *equality*, in spite of our former decision to the contrary (161 E).

On the course of the argument up to this point there is no need to remark at any length. Its logical and metaphysical interest centres of course in the steps by which we reach the general conclusion that even a negatively determined reality "has many predicates". It was perhaps the greatest service ever rendered to logic by one man that Plato performed when he showed, here and in the *Sophistes*, that to say "A is not B" does not exclude A from being something else, and in fact that "not to be B" simply means "to be something different from B". And this service to logic was at the same time an equal service to metaphysics. For so long as "not-being" is taken to mean utter unreality, not only do the commonest negative judgments of everyday life

become unmeaning, but we are led directly to that severance of the real from the actual and apparent, with the evil fruits of which the present dialogue has made us sufficiently familiar. It is certain that reality, as it comes to us in perception at any moment, is not full and ultimate reality, and thus if whatever has any element of negation and unreality about it must be nothing, the whole sensible world at once disappears. The same is true of the world of Ideal Forms: for one "Idea" is *not* another; thus it is not the whole of reality, and therefore from this point of view is not real at all. It is from such difficulties as these that Plato's doctrine of μὴ ὄν as here set forth delivers us, by resolving negation into difference, and so preparing the way for two conceptions of the utmost philosophic importance: (1) the conception of reality as possessing various grades or degrees which is made so prominent in the *Republic* and *Philebus*,[1] (2) the true conception of error and falsehood, not as the assertion of the absolutely non-existent and unmeaning, but as a confusion of different kinds of reality. (Falsitas in absoluta privatione consistere nequit . . . neque etiam in absoluta ignorantia. Spinoza, *Ethica*, ii., 35.)

Of the meaning of the various predicates which are now successively asserted and denied of the "non-existent" One I have said all that I think necessary in connexion with the parallel demonstration of hypothesis 2, and shall not therefore repeat what I have there observed. I have also pointed out in the same place the mistakes which beset the argument: (1) the treatment of a relation between two terms as a mere adjective qualifying one of them, and (2) the inference from the absence of "equality" between two things to the presence of other quantitative relations or *vice versâ*. The logical character of this last confusion is made more apparent in the present passage by the introduction of a fresh step in the reasoning. At 150 D we went directly from the absence of "greatness" and "smallness" to the presence of "equality," and we were content to note that there was a logical blunder of some kind involved in the process without stopping to specify it. Here in 161 CD the nature of the fallacy is made manifest by the interpolation into the corresponding reverse argument of an "Idea of inequality" (ἀνισότητος δὴ μετέχει τὸ ἕν), and it is now clear that, unless everything

[1] Whatever be the date of the *Parmenides* and *Sophistes*, the conception of not-being here set forth must have been clearly present to Plato's mind when he wrote *Rep.*, 583-586, where the distinction of degrees in reality plays so important a part.

that is real has *some* quantitative determinations, we have treated a mere "infinite" negative, whose only meaning is the absence of a "Form," as though it were itself a "Form" with a definite and ascertainable character of its own. The mistake is beyond palliation, but its repeated occurrence in the hypotheses is enough to show that, at the time of writing the *Parmenides* at least, Plato had none of that dislike of "negative Ideas" which is so properly felt by Aristotle and Mr. Archer-Hind.

The culmination of the argument of Parmenides, as far as its logical and metaphysical value is concerned, is reached at 162 A, where he formally draws the inference to which he has throughout been leading up, "the non-existent One must even in some sense have reality, and must exist". For we hold that the propositions we have hitherto made about it are *true;* that is they are statements of *reality.* Thus we may say, attaching the fullest sense to our words, "the One *is* non-existent". If we deny this, we must be prepared to assert "the One *is not* non-existent," and to say this is to affirm its existence even more unreservedly than we have now done.[1] "So," continues Parmenides, "it must have being-non-existent as a bond of not-being, just as being must have not-being-non-existent (as a bond of being) if it is to be perfectly real. For thus that which is would most truly be, and that which is not most truly not be, if that which is has the positive property of being existent and the negative property of not being non-existent, while that which is not has the positive property of being non-existent and the negative property of not being existent." If we bear in mind that the non-existence of which we are speaking is the relative unreality of being negatively determined, not the absolute non-existence which, as we have seen, has no meaning, we may, I think, venture to paraphrase this somewhat cryptic sentence thus. Logically, of a subject with a positive predicate you can assert, positively, its possession of that predicate, negatively, the absence of any determination which would be incompatible with it; of a subject negatively determined you can always deny any proposed attribute which involves the removal of the previous negation, and positively, you can always affirm the presence of a real ground for the negation. Thus every affirmation affords

[1] The Greek is *εἰ γὰρ μὴ ἔσται μὴ ὄν, ἀλλά τι τοῦ εἶναι ἀνήσει πρὸς τὸ μὴ εἶναι* (*i.e.*, if it exchanges such qualified existence for non-existence) *εὐθὺς ἔσται ὄν.* My paraphrase of this difficult sentence is virtually a translation of *Proclus in loc.*

a basis for *exclusion* and every negation must rest on a positive *ground*, and consequently affirmation and negation always presuppose one another, and are connected, as we may say, δεσμῷ τινί. Or, to translate the result from logic into metaphysics, the reality which we affirm in any positive judgment is always a part only, never the whole, of reality, and has therefore an aspect of unreality, while that which in any significant negative judgment we exclude from reality has nevertheless a reality of its own.

Thus we have clearly enunciated the important principle, which even to-day would be taken in some quarters, as it no doubt was at Megara, as a jest or a paradox, that there is no fancy, even in our wildest dreams, so nugatory and illusory as not to find its own humble place in the all-embracing system of truth and reality, nor any conception which we can form, in our moments of highest and truest thinking, of the contents of that system which will not fall short of its fulness. The bearing of such a principle on the relation of the Ideal world or any one Idea of them all to the corresponding sense-reality is obvious. It does away once and for ever with such double-edged applications of the principle of Identity as there is reason to believe the Megarian school were addicted to. So long as the principle of Identity was taken in all its rigidity as a first axiom of thought, it was equally easy for the acute controversialist either, taking his stand on the reality of the Ideas, to condemn the sensible world (*Sophistes*, 246-9), or, starting with the reality of the sensible world, to reject the ideas as he pleased.[1] We now see that neither proceeding is justifiable. The One—whether interpreted to mean the world-system itself or any lesser system of parts, such as the individual Idea—is of course real, but it cannot be real unless the Many—the sensible world of change and plurality—is so also (hyp. 2): the sensible world actually is, and so far the Ideas are negated, but that is no proof of their unreality (hyp. 6), for what has negative qualifications is, *ipso facto*, real, and there is no reason why it should not be the highest reality. When once we have grasped this great principle, the following of it out in detail is a matter of very secondary importance. For the sake of completeness, however, and in order to make it perfectly clear to the reader in what sense I understand every paragraph of the dialogue, I will present a brief abstract of the remainder of the hypothesis (162 B-163 B).

[1] For a Megarian argument of the latter kind *cf.* Diog. L., ii., 119. Stilpo ἔλεγε τὸν λέγοντα ἄνθρωπον λέγειν μηδένα, οὔτε γὰρ τόνδε λέγειν οὔτε τόνδε.

It should be noticed first of all that Plato is careful to mark the intimate connexion of the present argument with the great second hypothesis by reverting here, and here only, to the principle which had been laid down in 3, the annexe and continuation of 2. That principle is once more, for the second and last time in the dialogue, affirmed at 162 B. The One, we began by assuming, "is not"; that is, it can have negative predicates, and so is not the only reality: also, as we have seen, "it is"; that is, *because* you can say something *negatively* you must also be able to say something positively about it. Thus, it "partakes" both of being and not-being. Consequently, just as was argued at 155 E-156 A, these two complementary sides of its full nature will fall apart in time. It will, in fact, *change*. And change is *movement* (*μεταβολὴ δὲ κίνησις*). "The One" is thus once more shown to be the exact reverse of that "moveless and changeless holy image" of Eleatic and Megarian adoration; its life, far from being an unbroken eternity of empty self-sameness, involves the repeated transition from affirmation to negation, from felt and present unity to an existence which, while still real, is to perception lost and suspended in indefinite plurality. In experience it is sometimes the unity of the system, but also sometimes the immense variety and complexity of its parts, which obtrudes itself upon our notice. And yet there is also a sense in which we may deny all we have just affirmed. For the One not only *is*, but, by hypothesis, it also *is not*. Not only, that is, is the one reality that which makes itself known to us in every moment of our experience; it is also that which is *never* and at *no* moment in its fulness present to us. And viewed in this light it is one and changeless. For it (*a*) is *nowhere*, and consequently cannot undergo change of place; and (*b*) it is not *contained in anything* (*τὸ μὴ ὂν ἓν τῷ τῶν ὄντων ἀδύνατον εἶναι*, 162 D), and consequently cannot *rotate*. Nor (*c*) can the One, regarded as the ultimate unity of all things, know *qualitative* change; were it to alter its character it would no longer be the One. Thus we may assert with equal right (*a*) the one reality includes change and motion; (*b*) the one reality is changeless and motionless (163 A). Becoming and decay will, of course, follow the fate and share the fortunes of change and motion. So that finally the "One," even though we attach negative predicates to it, may be said in one sense to experience, in another sense not to experience, *becoming and decay*. With this result our demonstration is complete (163 B). We have faced the difficulty which was already latent in 2, and shown that the partial negation of the One which was there implied

not only does not lead to the reversal of the positive results there established, but actually demands their affirmation. We are next to see what the opposite interpretation of the negative judgment involves, and once more to learn that on the view which treats unity and diversity, being and not-being, as incompatibles the content of knowledge and existence vanishes into nothing.

Hypothesis 7 (163 B-164 B). "*The One*" *does not exist: what follows?* We now understand our premiss in an absolute sense. "There is no such thing as the One." And the consequences which now become necessary can be rapidly and easily traced. When we say "A is not," we mean to deny A's reality. That is, we mean to deny its existence not with qualifications but absolutely and *in toto*. The non-existent A is to be = nothing. And of course the merely non-existent can neither enter upon a reality which is irreconcilable with its own utter nothingness, nor renounce an existence which it has never possessed, so that *becoming* and *decay* are alike impossible for the non-existent One. And what neither begins nor ceases to be in any sense undergoes no change and no motion. Therefore, *change* and *motion* must be denied of the non-existent One. But it is equally impossible to attribute to it *rest* or *self-maintenance*. For rest, as we saw in connexion with the first hypothesis, means remaining "in the same place," or "in the same relations". But how can that which is merely and utterly unreal be in any "place," or stand in any "relations"? And finally, to cut a long story short, we may say directly that none of the predicates which are enjoyed by real things can belong to the One, "if it does not exist"; for to possess *any* predicate would be, so far, to be real and to exist. It has therefore neither (*a*) quantitative nor (*b*) qualitative relations to itself nor to anything else. From which we can at once infer (164 A) that nothing else has any relations with it. And the ultimate conclusion is once more, as in hypothesis 1, that the One is the merely unreal and unknowable. "There is neither science, belief, sense-perception, discourse, nor name" of the One, *unless* the One is real. And so we see, though Plato does not expressly call our attention to this delicate piece of irony, that whether you say the One is the absolute and only reality (hypothesis 1), or that it is the merely unreal (hypothesis 7), it is all one; in either case your adhesion to the principle of Identity, which led you to assert in hypothesis 1 that "what is One can be nothing but One," and in hypothesis 7 "what is unreal in any sense is unreal through and through," compels you

to admit that the One is so utterly unreal that it is not even so much as the "baseless fabric" of a philosopher's imagination. And this conclusion, though inevitable on the premisses, sounds rather strained even in the mouth of an avowed Pluralist, while in an Eleatic or a Megarian it would be "rank blasphemy".

Our original task has now drawn practically to its conclusion. There remain only two brief and subsidiary hypotheses to analyse. We have still to ask ourselves (1) How does the recognition of τὸ ἕν's partial participation in negation affect our knowledge of τὰ ἄλλα? (2) Even if we agree, in consequence of the conclusions of 1 and 7, to give up the existence of the One or the Ideas altogether, is it not still open to us to take our stand on the reality and knowability of the sensible world? Why, it may be asked, should the proof that an Eleatic or semi-Eleatic One is a *vox nihili* establish the existence of a *Platonic* One? Why not dispense with a One, or a systematic unity of the world, altogether and content ourselves with such knowledge as we can get of the manifold and infinitely varying world of sense-particulars? In hypothesis 8 we have Plato's answer to (1); in hypothesis 9 the final refutation of (2).

Hypothesis 8 (164 B-165 D). Reverting to the presupposition of 6 we ask, "If the One can be subject to negative predicates, and so far non-existent, what consequences does this entail upon τὰ ἄλλα?" Or, translating into rather less indefinite language, "If we abstract from the world of perception, or from any subordinate part of it, its character of systematic unity, and consider only the aspect of multiplicity, what appearance will it present to us?" This question, it must be carefully observed, is quite different in spirit though not in form from that which is propounded in the one hypothesis which is yet to follow. There the absolute unreality of ideal or systematic unity, here its merely relative non-existence, is the presupposition of the argument. That hypothesis raises the question what the world looks like, or ought to look like, to a man who *flatly denies* that it possesses any ideal unity at all, and is consistent in his denial; here the question is how the world will appear to us so long as we *fail to take into account*, not deny, its systematic unity. Consequently, while we shall find in the ninth hypothesis the paradoxical conclusions of a rigorously consistent pluralism, we have in the eighth an acute analysis of the inconsequences in which everyday "common-sense" reflexion on the course

of the world is content to rest. The hypothesis is, in fact, perhaps the clearest account in the whole of the Platonic writings of that confused and unsystematised result of experience which, taken at varying levels of reflexion, he opposes, under the names of δόξα and αἴσθησις, to the coherent understanding of the world as an ordered whole which alone he calls ἐπιστήμη—scientific knowledge. This confused "common-sense," we must remember, is something very different from the error which results from the resolute adoption of an utterly perverted philosophical principle. It is all very well so far as it goes; only the pity of it is that it doesn't go very far. Still of course it is not mere delusion or nonsense. For most men, and on some subjects, such as *e.g.* cosmology (*Timæus*, 28), even for the Platonic philosopher, it is the only available guide, and it would be folly to disregard it. We have seen (151 D) at the end of the second hypothesis that it is, in some degree, an apprehension of the one reality, but it is a most wavering and perplexed apprehension. It may be described in outline much as follows. We are to suppose ourselves face to face with a world of objects in which we have not learned as yet to detect the unity of plan or organisation. How will it appear to us? First of all, it will most certainly appear as a *plurality*, and as exhibiting *diversity*. But diversity from *what?* Not from the ultimate unity, for that *ex hypothesi* is not within the scope of our thinking (τοῦ μὲν γὰρ ἑνὸς οὐκ ἔσται ἄλλα, μὴ ὄντος γε, 164 C). The diversity will therefore be internal. Our world will seem to be a vast multitude of objects, each differing from all the others. And the same will be true if we analyse what seem to be its individual constituents. Each object, on closer inspection, will be found itself to consist of smaller parts, and these again of parts still smaller, and so on to infinity. Thus, in the absence of such a unity as is given to our apprehension of the different parts of a machine or an organism by their relation to the system of the whole, we shall have a world of countless different objects, each of which may if we chose to go no farther with our inspection of it *seem* to be a unit, but must also, on close examination, confess itself an unlimited plurality, or, as Plato calls it, an ὄγκος, a mere indefinite "heap".[1] And in the same way, these apparent units will *seem* to be capable of being numbered; but it will be mere seeming, for there

[1] *Cf.* for the happy use of the term Hume's "*heap* or collection of perceptions".

are no real units there to be numbered. Again we shall seem to have carried our subdivision to its utmost limit, and to have found a "least part" (*e.g.* an "atom"), which we can if we will treat as the unit; while yet again this unitary "least part" will itself contain an indefinite number of parts, in comparison with which it will itself seem *many* and *large*. From which it follows that, if we take each from the suitable point of view, the "whole" and the "part" will appear *equal* to one another (165 A, καὶ ἴσος μὴν τοῖς πολλοῖς καὶ σμικροῖς, *sc.*, its own parts, ἕκαστος ὄγκος δοξασθήσεται εἶναι· οὐ γὰρ ἂν μετέβαινεν ἐκ μείζονος εἰς ἔλαττον φαινόμενος πρὶν εἰς τὸ μεταξὺ δόξειν ἐλθεῖν, *i.e.*, since you can by judicious arrangement make an object A which normally appears several times as great as B look less than B, it is clear that by the proper arrangement you can also make them seem equal). So again, one "heap" will seem, but will only seem, to be itself an ordered system (πέρας ἔχων πρὸς ἑαυτόν) or a part of such a system (πέρας ἔχων πρὸς ἄλλον ὄγκον), while on a closer inspection we shall find that the appearance was an illusion. We can find a "beginning" before every "beginning," a "middle" which is in the midst of every "middle," an "end" after every "end," and so on *in indefinitum*. For without units there can be no such thing as system. So altogether, whatever object one tries to think, it vanishes away, for lack of its interpretation as an organic unity, that is as an idea, into an infinite multiplicity of infinitesimals. And we may say of every such object that while it seems when seen from a distance and by a short-sighted spectator to be one, the keener insight which studies it at close quarters (ἐγγύθεν δὲ καὶ ὀξὺ νοοῦντι) detects its indefinite multiplicity.

So, recapitulating our conclusions, we find once more, on our present hypothesis, that we can both assert and deny the seeming unity and systematic character of any and every object. Similarly we can predicate both *likeness* and *unlikeness* of our "heaps". Viewed from a distance they all look to be alike and to be very much the same thing, but when you examine them more minutely you find they are full of diversity and unlikeness. And so, concludes Parmenides, we can easily show that the "heaps" touch and do not touch each other, are all in motion and all at rest, come into and pass out of being, and yet again neither become nor pass away. And with this declaration the eighth hypothesis comes to an end.

The hypothesis we have gone through has clearly a double function. (1) It serves to confirm us in our prefer-

ence for that interpretation of the world's unity from which it is deduced, by showing that it leaves room for the relative truth of the everyday judgment of sense and its elaboration into non-philosophical physical science; and (2) it affords a clear and striking picture of the perplexities which beset this non-philosophic thought in its attempts to be consistent with itself. No better description has ever, so far as I know, been given of the baffling aspect the world must wear for an understanding which, failing to grasp the conception of its organic unity as a systematic interrelation of systems, has to take spatial continuity for unity, and the vague sense of "likeness" and "unlikeness" for identity and difference. On this topic I have, however, said all that seemed necessary a few pages back; I will only add two other remarks. (1) That it will help us to appreciate the hypothesis better if we think of the transformations produced in the appearance of familiar objects when seen under the microscope (compare Plato's own image at 165 C, *πόρρωθεν ὁρῶντι . . . ἐγγύθεν νοοῦντι κτλ*). (2) That the description of the *ὄγκοι* of this hypothesis is by itself enough to show that the *τὰ ἄλλα* of the dialogue represent the *sensible* world (see above, MIND, vol. v., pp. 483-4).

The ninth and last hypothesis (165 E-166 C) need not occupy us very long. It starts once more from the proposition "the One has no reality," "there is no such thing as the One". That is, it makes the assumption of a thoroughgoing sensationalistic Pluralism, and proceeds to draw a sketch of the world as it must consistently be thought of on such a theory. And we see that the world of indefinite plurality itself is for the consistent Pluralist unthinkable. For we admit that the manifold are in no sense *one;* and it is not very hard to see that for the same reason they cannot be *many*. For a manifold is a multiplicity of *ones*. Nothing added to nothing ever so many times will not produce anything but itself (165 E). Thus *τὰ ἄλλα* are on the Pluralist's hypothesis neither one nor many. Nor can we even fall back on the results of the last hypothesis, and say they *appear* to be one or many. For we have pledged ourselves to the entire and utter unreality of unity. We are therefore not in a position to allow it even the subordinate reality of being an object of "fancy" or "opinion". What is nothing at all cannot even be a philosopher's day-dream. Thus not even in delusive appearance does the world seem to be either one or many. And a similar criticism may be passed on every other positive or negative predicate that is proposed for our acceptance. If *unity* be unreal, so is everything else.

In short, we may truly say, if unity do not exist nothing exists (166 c). So, summing up into one enigmatic phrase the results of all the hypotheses, Parmenides concludes: "We may say it seems, that whether the One exist or not, both it and the Manifold in every way, in relation both to themselves and to each other, are and are not, appear and do not appear". To which the perplexed interlocutor can only reply, "Just so".

We may now properly subjoin to the detailed examination of the foregoing arguments such a tabulated statement of their inner relation to one another as we declined to supply at the opening of the discussion. And first we may say that, if our reading of the individual hypotheses has been correct in its main features, the purpose aimed at and attained by Parmenides has been the tracing out to their logical conclusions two opposite and mutually exclusive views of the nature of the world's unity. One of these views is that which treats that unity as the one and only reality, and proceeds in reliance on the principle of Identity to stigmatise whatever is other than it as non-existent. The other view, starting not from the formal principle of Identity, but from the more practical axiom that the unity of the world must at least be real, leads on the other hand to the recognition of plurality, diversity, motion, and change as essential to its existence and inseparable from it. And the final outcome of our lengthy inquiry has been that on the first view, just as much as on that opposite theory which treats all unity as a fiction, affirmation, negation, knowledge, opinion, and discourse itself are all impossible, while on the second all are possible, and all, in their varying degrees, reflect the nature of the real. Or, to set the results of the individual hypotheses out in tabular form:—

Hypotheses 1 and 5 investigate the consequences of the first theory, and 7 and 9 those of the corresponding negation. Hypotheses 2, 3, 4, 6, 8, examine from all points of view the implications of the second theory.

In particular:—

1 and 5 show that if the reality of τὸ ἕν be taken as meaning that everything else is unreal, predication is impossible, whether the subject be τὸ ἕν (1) or anything else (5). 7 and 9 show that similarly if τὸ ἕν have no reality at all, predication, whether about τὸ ἕν (7) or anything else (9), is impossible.

2 and its corollary 3 show for τὸ ἕν and 4 for τὰ ἄλλα that predication is possible, and that conflicting pre-

dicates can both be true, if τὸ ἕν's reality do not exclude the reality of τὰ ἄλλα.

6 and 8 show that τὸ ἕν may have negatives attached to it and yet predication remain possible. In particular, 6 shows that τὸ ἕν can have predicates of a positive kind, even though it have also negative ones; 8, that even if τὸ ἕν be thought of as negatively determined, or be not rightly apprehended, yet so long as its existence is not absolutely denied, things will have an *apparent* unity, and admit of assertions being made about them, though these assertions will not rise to the level of real knowledge.

Bringing these various results together, I think we may venture to say that the object of the second part of the *Parmenides* has now been shown to be this: to demonstrate that the crude Idealism which places reality in a mere undiversified unity, and the crude Sensationalism which finds it in mere chaotic diversity, alike end, when thought out, in speculative Nihilism, and to justify against both, as the true interpretation of the world, a theory which, while refusing to regard the multiplicity and change of sense-perception as the ultimate truth of things, yet looks upon it as a necessary and indispensable element in the whole. The truth of things lies in the Ideas, but they are not, as the opposite view supposed, in a world of their own, nor is the phenomenal world simply unreal; it is the sphere in which the Ideas manifest themselves, and, just as the sensible world would be nothing but for its "participation" in the Ideas, so the Idea would be equally nothing but for its permeating presence in the actual world of experience. In the *Parmenides*, in fact, as in the *Sophistes*, we find Plato defending his own view of the world against attack from two quarters. He has to answer (*a*) the philosophers who recognise the sensible as the only reality, and attempt to dispense altogether with the Ideas. And in the *Parmenides* the refutation on this side must be sought in the eighth and ninth hypotheses. In 8, where we have, as I have shown in the proper place, Plato's own account of δόξα, we see the perplexities to which the *neglect* of the Idea (*cf. Soph.*, 246 B, τὰ δὲ ἐκείνων σώματα καὶ τὴν λεγομένην ὑπ' αὐτῶν ἀλήθειαν κατὰ σμικρὰ διαθραύοντες ἐν τοῖς λόγοις γένεσιν ἀντ' οὐσίας φερομένην τινὰ προσαγορεύουσιν) and in 9 the ultimate speechlessness to which its consistent *rejection* must lead. Plato has also (*b*) to meet the believers in the "changeless and moveless" bodiless Idea as the sole reality, and it is to them that the chief part of the dialogue (hyp. 1-6) is allotted. And the moral of the whole cannot

be better summed up than in the following sentence (*Soph.*, 249 c), part of which I have already quoted elsewhere. "The philosopher . . . must then, as it seems, refuse to be persuaded, whether by believers in the One or in a plurality of Ideas, that the universe is motionless, while to those who make motion ultimate he must not even listen; he must say, to borrow a phrase from the children's game, that the Real and the Universe are both 'moving and not moving'" (*τῷ δὴ φιλοσόφῳ . . . πᾶσα, ὡς ἔοικεν, ἀνάγκη διὰ ταῦτα μήτε τῶν ἓν ἢ καὶ τὰ πολλὰ εἴδη λεγόντων, τὸ πᾶν ἑστηκὸς ἀποδέχεσθαι, τῶν δὲ αὖ πανταχῇ τὸ ὂν κινούντων μηδὲ τὸ παράπαν ἀκούειν, ἀλλὰ κατὰ τὴν τῶν παίδων εὐχήν, ὅσα ἀκίνητα καὶ κεκινημένα, τὸ ὄν τε καὶ τὸ πᾶν ξυναμφότερα λέγειν*).

There are two more points to which I should like to refer very briefly, and I will then bring this essay to a close.

I have throughout made a historical assumption which perhaps calls for a word of justification. As far as the meaning of the dialogue is concerned it is, of course, of very minor importance who was its author and who were the persons against whom the polemic was directed. For the purposes of interpretation we have to take the argument in its universal sense, and so long as we are successful in ascertaining what theory it upholds and what theory it attacks, it cannot much matter to us as commentators on the *Parmenides*, though it would to an editor of the "Platonis Opera Omnia," whether it was Plato, or another, who advocated the one set of conclusions and combated the other. I have however all along assumed (*a*) that the conclusions of the dialogue are those of Plato, and (*b*), though less confidently, that the views which are criticised unfavourably in the first part and most of the second part are those of the Megarians. On both these points I ought perhaps to say something in my own defence.

(*a*) As to the first point, it will be noticed that the only other "Platonic" composition of which I have made any considerable use for the elucidation of the *Parmenides* is the *Sophistes*, a work the authenticity of which admittedly stands or falls with that of the present dialogue. It might therefore seem perfectly consistent with my interpretation of the dialogue to hold that it is either spurious, or at any rate together with the *Sophistes* represents an exceptional and merely temporary development of Plato's thought. As against both these views, the full consideration of which would require a second essay at least as long as the present, I will just add two references, one to the *Philebus* and one

to the *Republic*, which may serve to bring out the vital connexion between the abstract logical categories of the *Parmenides* and the more concrete forms of Platonic thought with which we are all familiar. At the beginning of the *Philebus* there is a striking passage which recalls the paradoxes of the *Parmenides* so closely that it is almost impossible not to regard it as a piece of conscious self-criticism.[1] At *Philebus*, 14 C, Socrates is led to attack the problem, which, as he says, "troubles us all," of the relation between One and Many. In further specifying the manner in which the question should be discussed, he first (14 D) sets aside, just as he had done in the *Parmenides*, the vulgar puzzles which arise from the combination of unity and plurality in the sensible world. These puzzles and the paradoxes founded on them are *τὰ δεδημευμένα τῶν θαυμαστῶν περὶ τὸ ἓν καὶ πολλά, συγκεχωρημένα ὡς ἔπος εἰπεῖν ὑπὸ πάντων ἤδη μὴ δεῖν τῶν τοιούτων ἅπτεσθαι, παιδαριώδη καὶ ῥάδια καὶ σφόδρα τοῖς λόγοις ἐμπόδια ὑπολαμβανόντων γίγνεσθαι* (14 D). His concern in the *Philebus*, as in the *Parmenides*, is with the ideal unities themselves. And about these unities there are still, as there were in the *Parmenides*, two questions: (1) Do they exist? (15 B, *πρῶτον μὲν εἴ τινας δεῖ τοιαύτας εἶναι μονάδας κτλ*). (2) How is their unity compatible with their presence in the countless particulars? This last question is the standing difficulty of philosophy (*περὶ . . . τῶν τοιούτων ἡ πολλὴ σπουδὴ μετὰ διαιρέσεως ἀμφισβήτησις γίγνεται*, B. *ταῦτ' ἔστι τὰ περὶ τὰ τοιαῦτα ἓν καὶ πολλὰ . . . ἁπάσης ἀπορίας αἰτία μὴ καλῶς ὁμολογηθέντα καὶ εὐπορίας αὖ καλῶς*, C). When it first dawns on a young man he feels that he has discovered a veritable treasure-trove of wisdom, and in his delight in his own skill can never rest from perplexing himself and every one else with his demonstrations that the One is Many and the Many are One (15 E). But the task of the true philosopher, in dealing with the difficulty, is a more laborious one (16 D E). He must not content himself with showing that each ideal One is also an indefinite plurality; his work is to reduce that plurality to order by once more detecting in it subordinate unities as often as may be possible, and so to substitute for the abstract categories of unity and plurality a graduated hierarchy of higher and lower unities. That is, it is not enough to perceive that there is system in the world unless you go on to ascertain the contents of the various systems and their

[1] Apelt also notices the similarity, but does not draw from it the inference which I am inclined to do. *Beiträge*, p. 33.

relations to one another. Thus in the *Philebus* we have (1) the recognition of the same two questions which Parmenides had raised at the beginning of our dialogue as the chief problems of metaphysics; (2) a somewhat depreciatory description of the solution which is all our dialogue offers; (3) and a substitution for it of a solution by a new and more detailed method, which is no other than the διαίρεσις κατ' εἴδη so familiar to us from the *Sophistes* and *Politicus*. The gist of the whole passage will be that the mere demonstration of the mutual implication of unity and plurality with which the *Parmenides* ends is only the beginning of philosophy; the real task which has to be faced is that of constructing a systematic arrangement of εἴδη, a specimen of which is given in the *Sophistes*. Thus the passage of the *Philebus*, besides affording some testimony to the genuineness of the *Parmenides*, seems to go a long way towards justifying the unwillingness I have more than once expressed to assign the dialogue to the same period of Plato's life with the *Sophistes* and *Politicus*. There is one more famous passage in the *Philebus*, which, taken in connexion with the still more famous passage on the same subject in the *Republic*, may throw light on the meaning of Plato's ἕν in the *Parmenides*. I mean the description of the supreme reality, the "Form of Good". We learn from *Philebus*, 65 A, that the "Good" can only be apprehended by us under the threefold forms of (*a*) beauty, (*b*) symmetry, (*c*) truth, while, as every one knows, we are told in the *Republic* (509) that the "Good," though the source not only of knowledge but even of reality to whatever can be known and is real, is itself something higher and greater than knowledge and even than reality. Now, putting on one side all that these passages tell us of the concrete content of the "Good," what can we gather from them as to its logical form? It is clearly one and indivisible; at the same time as a unity it is beyond our power of comprehension, and appears to our understanding in the form of an elaborate system of systems (*Philebus*). And just this and nothing else is the specific character of that "One," in which the Parmenidean hypotheses have led us to believe. It also is by hypothesis most truly *one*, yet it too only exists for us as manifesting itself in indefinite plurality; its existence, again, like that of the "Good," is the condition not only of knowledge but even of the existence of everything else. So that I think we shall not be going too far if we describe the "One" of hypotheses 2 and 6 as the Platonic "Idea of Good," seen in its purely logical aspect as the supreme unity of all existence.

(*b*) I have already more than once hinted that I believe the polemic of the *Parmenides* to be in the main directed against the Megarian philosophy. I will now produce my reasons for this view. And first I should like to point out that the Idealist theory, as formulated by Socrates at p. 129, was already at least semi-Megarian in character. This is, I think, placed beyond a doubt by a comparison of *Parm.*, 129 ff., with the criticism, at *Soph.*, 246 ff., of the *εἰδῶν φίλοι*, who can hardly be other than the historical Megarians. The peculiar features of the view examined at *Soph.*, 246, the sharp severance between the unseen and bodiless Idea and the visible world, with the consequent opposition of "perception" and "thinking," and the ruthless banishment of change and motion from the real to the phenomenal sphere which calls forth the severe rebuke of 249 C, all agree so exactly and even verbally with the position of the Parmenidean Socrates (*cf. τὰ ὁρώμενα* contrasted with *τὰ λογισμῷ λαμβανόμενα*, *Parm.*, 129 E, 135 E, with *Soph.*, 246 B, *νοητὰ καὶ ἀσώματα εἴδη . . . ἐξ ἀοράτου τόπου*, *ib.*, . . . *σώματι μὲν ἡμᾶς γενέσει δι' αἰσθήσεως κοινωνεῖν*, 248 A; *Parm.*, 132 D, *τὰ μὲν εἴδη . . . ἑστάναι ἐν τῇ φύσει*, *Soph.*, 249 A, *νοῦν οὐκ ἔχον ἀκινητὸν ἑστὸς εἶναι*, C, *ἀνάγκη . . . μήτε τῶν ἓν ἢ καὶ τὰ πολλὰ εἴδη λεγόντων τὸ παν ἑστηκος ἀποδέχεσθαι*, and compare the list of *εἴδη* given by Socrates at 129 E with the *μέγιστα γένη* of the *Sophistes*), and are so entirely unlike any coherent doctrine which can be got from the hypotheses, that this conclusion appears to me all but certain; while the opposite view, that Socrates represents the Platonic and Parmenides the Megarian interest in the dialogue, seems to entail the spuriousness not only of the *Parmenides* but also of the *Sophistes*. Further, if we suppose that Socrates, in our dialogue, is arguing from a semi-Megarian standpoint, we seem to find a special appropriateness in the dramatic setting of the discourse. Not only does Plato's repeated insistence on the youth and inexperience of Socrates become intelligible, but the selection of Parmenides as his opponent acquires a new significance. For the Megarian school derives as much from Eleaticism as from Socraticism, and hence the choice of the great Eleatic as the mouth-piece of Plato's refutation of Megarian misapplications of his fundamental thought has a singular fitness. Similarly in the *Sophistes* it is into the mouth of an Eleatic that he puts his criticism on both Parmenides and the Megarians. There seems however to be one important difference between the Socrates of the first part of the *Parmenides* and the early Megarians, and

on this point, the advantage, as far as consistency is concerned, is not with Socrates. The first Megarians, according to all accounts, held pretty much the same notion of Ideas as that which Socrates here puts forward, but they soon discovered the impossibility of getting from such Ideas an explanation of the sensible world. That, with the consistency of despair, they, like the Eleatics, gave up as the merely illusory. And a similar act of intellectual "happy despatch" would be the inevitable outcome of Socrates' theory, were he determined to carry it through. He is not however prepared to face such a consequence, and on its being pointed out to him that the presuppositions of his Ideal theory exclude the derivation of the sensible world from the Ideas he is disposed to modify the theory. In the second part of the dialogue, on the other hand, that interpretation of *εἰ τὸ ἓν ἔστι* which leads to the Nihilistic conclusions of the first and fifth hypotheses seems to be Megarianism unalloyed. No better comment could be made on the meaning and consequences of the assumption "the One is," in the sense in which it is there made, than is contained in the three following passages which sum up the Megarian ontology. (I quote from Ritter and Preller.) "They held that reality is *one*, and the unreal is what is other than the One, and that there is no such thing as genesis, or decay, or motion." (*ἠξίουν οὗτοί γε τὸ ὂν ἓν εἶναι καὶ τὸ μὴ ὂν ἕτερον εἶναι, μηδὲ γεννᾶσθαί τι μηδὲ φθείρεσθαι μηδὲ κινεῖσθαι τὸ παράπαν.* Aristocles Peripateticus quoted in Eusebius, *Praeparat. Evang.*, 14, 7.) "He (Eucleides) denied the reality of what is opposed to the 'Good,' saying that it does not exist" (Diog. Laert., 2, 106). "These theories (Megarian views about *δύναμις* and *ἐνέργεια*) destroy both motion and becoming. What is once at rest will according to them be always at rest, and what once sits down must always remain seated" (Aristotle, *Met.*—[*i.e.*, Bk. *θ*] 1047*a*14). It is true that we cannot be sure that the Megarian doctrine about *δύναμις* is as old as Eucleides, but it is at any rate a natural and obvious deduction from the principle, "what is, *is*, and what is not, is *not*, and there is no intercommunion of being and not-being," which was common to him with the Eleatics. It would seem then that it is not unreasonable to state the argument of the *Parmenides* from a historical point of view thus. Parmenides exhibits to Socrates the latent Megarianism of his first ideal theory (part 1); the Megarian principle is then followed consistently to its conclusion, and proved (hyp. 1 and 5) to be as untenable as the opposite theory of sensationalism (7, 9),

while the true or Platonic ideal doctrine is shown (2-4, 6, 8) to be the real solution of the problem.

If our interpretation of the hypotheses be accepted as in the main sound, still an ultimate doubt seems to remain. How, it may be said, has our conclusion gone beyond the point from which we set out? Our original difficulty was to understand how the one Idea could spread itself out, so to speak, over a plurality of particulars; that this must somehow take place we saw from the first, but the difficulty was to see *how* it could come about, and we do not seem to be any nearer an understanding now. For all that we have learned from the hypotheses amounts to this, that the inconceivable union of unity with plurality must really happen, which is no more than we knew before. It is no answer to the question how the unthinkable happens to say, as Parmenides virtually does: "Well, you see it does happen". To such a doubt one may, however, reply that whether the demonstration is satisfactory or not, it is all that can be had. If it does not content us to be convinced that unity and plurality not merely "come together" in sensible things, but cannot even be thought of in separation from one another, it is hard to see what would. What is necessarily presupposed in every act of judgment and thought must most certainly be real, whether we can picture it to ourselves or not; or, if any one thinks this is an insufficient ground of certainty, he may, as Aristotle remarks in a different connexion, "be called on to produce a better".

I should like, lastly, to end this essay with a double apology, firstly, for what I have not said, and next, for something of what I have. It may seem strange that I should scarcely have made more than a passing reference to Zeller's instructive essay on the *Parmenides* in the *Platonische Studien*. The omission is due to two reasons. Partly I am not clear how far Zeller would still maintain any of the views there set forth, and partly I hope that my analysis will of itself indicate the extent to which I feel able to adopt his conclusions. I may, perhaps, just say that, while the view taken by Zeller in the *Studien* of the general purport of the hypotheses seems to me eminently just, I cannot acquiesce in his assumption that the "One" of the second hypothesis is identical with that of the first, nor consequently in his statement that the Platonic solution of the puzzle is only indirectly suggested.

To the late Dr. Maguire's edition of the *Parmenides* I probably owe more than to Zeller. In fact I think it most likely that it is to Dr. Maguire's marginal analysis of the

dialogue that I owe the first hints for my own essay. I gladly take the opportunity of acknowledging the debt; though, as will have been seen in the course of my exposition, I cannot follow Dr. Maguire in reading the Hegelian system into Plato.

The second part of my apology relates to the somewhat free way in which I have at times interpreted Plato in the language of modern philosophy. And on this score I would plead that for the most part these interpretations are intended rather as illustrations for the modern reader than as professed translations. Moreover, if we would form any sort of understanding of ancient thought, some process of this kind seems unavoidable, and the most we can do in order to guard against misrepresentation is to perform the process carefully and conscientiously. And of all the Platonic dialogues there is none in which this kind of interpretation can do less mischief than in the *Parmenides*. For its main result, as I have tried to show, is to arrive at the conception of the world as a systematic unity or whole, making almost entire abstraction from the concrete character of its contents, and there can be no assignable reason for thinking that this conception of abstract system appeared to Plato any otherwise than it does to us, though, no doubt, his notion of what the system contained was in many respects widely divergent from our own. Hence I can hardly suppose that even the freest of my restatements of Parmenidean arguments seriously vitiates my theory of the general purport of the dialogue; and the general drift and purport of the whole is all I undertook to explain.

III.—THE RELIGIOUS INSTINCT.

By Henry Rutgers Marshall.

§ 1. In opening this article, I must beg to remind my reader of certain points which I have endeavoured to bring into clear relief in the two articles of the series that have preceded this.

(1) We have seen that in all organic life we find two fundamental influences at work, the influence which tends to restrict organic variation within typical lines, and the influence which leads the organism to break free from the restraints thus presented.

(2) We have noted that the tendency to variance is determined partly by the forcefulness of the stimulus affecting the element, and partly by the degree of integration existing between the elements of the organism of which the affected element is a part: and we have seen this to be true in the higher development of the *quasi*-organic social life which determines our social, our ethical, instincts.

(3) We have seen that in order to account for the rise of instincts we must grant that in the past the variant tendency must on the whole have been held in check.[1]

(4) We have noted that in order to account for the formation of the social instincts we must assume that the instincts of individualistic import, as subordinated to those instincts which relate to the persistence of species, must in their turn have become subordinated to the newly forming social instincts: so that in the long run the individual will, under normal conditions, come to react to protect himself indeed as an individual, in such ways as will also lead to the persistence of the species, but only in such manner as will lead to the stability of the social group to which he belongs.

[1] Of the limitations of this view I speak in the closing section.

I.

§ 2. I wish now to call attention to a fact which seems to me to be of importance in this connexion. It must be granted, I think, that there are many influences at work in the *quasi*-organic social life of that civilisation in which man lives which tend to produce an over-emphasis of elemental variance, and to disturb the typical order of subordination of the instincts which we have considered; influences which lead especially to the enforcement of individualistic impulses and which tend to bring about an opposition to the force of the higher social instincts. To some of these influences I wish for a moment to direct the reader's attention.

It will be remembered that in treating of an individual organism I called attention to the fact that if the effect upon some special elemental part, resulting from the stimuli which reach it, be especially forceful, this part may tend to act for itself with little reference to the value of its action in relation to the whole individual of which it is a part. Thus, to repeat myself, the heart in its own interest, so to speak, may undertake extraordinary work which if not regulated by organic influences may result destructively to the organism as a whole.

I have also asked the reader to note that this elemental variant action will be less likely to take place in animals whose organic structure is complete and fixed; and more likely to take place in those organic forms in which the elemental parts are less closely interrelated, so that the action in any one organ is relatively less dependent upon the action in other organs.

The reader will also now perceive, I think, why I have called his attention with emphasis in one of the preceding articles to the fact that the hypothetical social organism of which we individuals are supposed to be elements, if it exist, must be an organism resembling the lower forms of individual organic life; and that the interdependence, the integration, between the individual elements of the social organism must be relatively very slight, even as it is between the parts of these lower individual organisms. In the racial life of man it is indeed in very many cases self-evident that the bond of interdependence between individuals is a very weak one indeed: the ties that have held the aggregate together may with little difficulty be broken, and new aggregates with changed relations may be formed. The Anglo-Saxon, reared under the valuable restraints of

a refined life in a highly civilised community, finds it all too easy to fall into the habits of loose morality of the semi, or wholly, barbaric races with whom he may find himself domiciled in the colonies. The European, who revolts against slavery at home, uses what is practically slave labour in Africa, when he finds himself powerful by its means. The frontiersman, who would have scorned to murder before his emigration, scarcely hesitates to kill the savage who happens in his way.

Now it seems to me that apart from the assumed validity of the parallelism with the lower forms of animal life which I have suggested, it becomes evident from the very examples just given, to which the reader will be able to add many others, that this lack of interrelation, of interdependence, in itself involves an exaggeration of the tendency within us to act individually instead of racially; and this emphasis of the individualistic influences will be likely to appear whenever the weak bonds of interdependence are broken, or where their relations of efficiency are altered: I think the reader will acknowledge that in the very nature of our exceedingly varied and complex civilisation such alterations and breaks as those to which I have just referred by examples are exceedingly likely to occur.

§ 3. But there are other reasons which would lead us to expect to find tendencies to the emphasis of individualistic influences in our lives.

In the preceding articles I have noted that elemental rather than organic action will be likely to follow where (α) the stimulus to reaction which affects a given element is unusually powerful, and where (β), on the other hand, the influences from the organism are not habitually called into play, in answer to the stimulus in question, with a force relatively equivalent.

Now I think it must be clear to the reader that the very conditions that are essentially bound up with the growth in complication of our life as individuals in a social community tend to bring into prominence (α) the forceful presentation of unusual conditions which seem to demand immediate reactions, but reactions on lines in relation to which our instincts have apparently no teaching to give. The racial, the social, influences on the other hand, it must be remembered, are effective (β) rather because they act through very many phases of life, than because they act forcefully in any specific instance, and for this reason clearly these racial influences must be expected to be slower in reaction

than those of a lower order, and less powerful unless they are allowed time in which to develop.

Thus it comes about that under special stress individuals tend to act as individuals rather than as members of a social body, and thus often there is required some emphatic presentation to the mind, of the opposition which individualism is making to these racial demands, perhaps a summation of such emphatic presentations, in order to bring the racial impulses into play. How often does the unscrupulous politician come to believe that the masses have lost all moral sense, because he sees no opposition to his action; how often is he surprised when, after many repetitions of aggravated crimes against their every-day morality, he finds them suddenly arising in revolt, upon what seems to him to be a most trivial indiscretion on his part; finds them, moved by a deep-lying moral sense, thrusting him aside as an unworthy servant.

It appears then that the mere complication of our life, with its enormous variety of forceful stimulations, itself implies emphasis of the variant influence; and the more complex therefore the life becomes, the more distracting the stimuli to action, the greater will appear the danger of disadvantageous subordination of the racial impulses.

§ 4. Let me now draw attention to another and most important influence at work leading us to emphasise variance in our lives.

We have seen, in what has preceded this, that instinct actions tend to become unconscious; and that this occurs in certain cases where these actions have become thoroughly co-ordinated, so that their instinct feelings do not become forceful in the pre-eminent consciousness; or in other cases where these instinct feelings become disconnected from the brain consciousness, either through incommensurability of rhythm or by other means. But demands for reactions of distinctly individualistic significance, especially where they are emphasised by rational processes, do not show this tendency to become unconscious, and hence are not so likely to lose their forcefulness in our psychic life.

I would here recall to the reader's attention the fact closely related to that just mentioned, that individually acquired habits of action must tend to become unconscious exactly as the instincts do; for if persisted in they gradually become more and more fully co-ordinated, and less and less forceful on their conscious side; in fact they seem

in extreme cases to become entirely disconnected in their action from the active working consciousness. The pianist when he begins to learn to play upon his instrument finds his practice accompanied by laborious conscious effort, but when he becomes a virtuoso, the technique becomes less and less prominent in his thought, and finally we find him thinking solely of the expression, considering at most only the effect upon his audience of the emotional trains that arise in his mind and which he interprets by means of his instrument. In such cases evidently individually acquired habits gain almost completely the character of instincts.

It becomes evident then that the very processes which in the racial life of the past have tended to make instincts less and less conscious do in our individual lives tend to produce unconsciousness of the acquired activities which originally result from ratiocination entirely within consciousness. Hence individually acquired habits which are clearly conscious in their inception, may become all but pure reflexes; and their psychic effects throughout this movement towards unconsciousness are so closely allied to the psychic effects produced by instincts that we are very liable to confound the true instinct with the acquired habit.

I think the reader will agree with me, then, that in our complex life we should expect it often to be very easy to mistake the leadings of the individual habit reflexes above spoken of, for true instinctive leadings: and yet it is clearly most important that we should learn to distinguish between the true instincts and these individual habit reflexes which grow upon us all; for evidently individual habit may lead to distinct racial loss. The habits of the musical virtuoso for instance could not but be of distinct disadvantage if adopted by the average man. It is needless to speak of the acquired habits of alcoholic drinkers and opium smokers to emphasise what I mean.

It is apparent then that this tendency to fail in distinguishing the habits acquired by deliberate action of the individual, from the instincts proper which belong to his race, will lead to a distinct danger of over-emphasis of the individual variant influence where it may come in conflict with the higher racial influence.

§ 5. Another important source of the over-emphasis of individualistic impulses is to be found in the fact that in not a few cases, success in life, as success is usually gauged, is attained by those who fail to appreciate the importance of the higher racial instincts.

That "honesty is the best policy" has become a proverb because by the use of it men try to persuade themselves that those who win success through disingenuousness stand on dangerous ground. But it must be confessed that the mass of fortunes, by the attainment of which in our day success is largely gauged, have been reached by skilful dishonesty.

I think it cannot be questioned that autocratic power has in the past been gained almost entirely by what the best of us now-a-days would call immoral methods, and that political power is to-day for the most part reached by means which honourable men of the world would not condone in the conduct of their own affairs. Yet to rise to eminence as conquerors, and as political leaders, is surely counted as success.

That licentiousness and other immoralities are no bar to social distinction is as true to-day as it was in the days of old.

Now without question these three attainments above mentioned, wealth, power, and social distinction, are all counted desirable; and yet note that they are all gained almost without exception by the emphasis of purely individualistic traits: self-love, self-protection, self-glorification, dominance over others for the personal gratification gained, theft of others' goods, destruction of one's enemies, and of what belongs to them and gives them power.

What wonder then that these individualistic traits have a fascination: a fascination that does not and cannot attach to those habits which are the outcome of impulses that give no individual importance, but that tend rather to bring about subordination of the welfare of the individual to the welfare of the race of which he is a mere element.

§ 6. In the preceding article I attempted to show that reasoned processes were the latest and highest development of the variant principle in us. The power of this latest development of the variant principle to become effective is much enhanced by the co-ordinate growth of habits of reflexion in connexion with the action of the fundamental *instinct to imitate*, which is so powerful in us all.

It is apparent that individual variations determined by process of ratiocination, if this process stood alone, would in many cases affect the lives of the reasoners too lightly to make these variations determinants in the struggle for existence, and thus to fix them in the race to which the individuals belong. There is no conflict of opinion and survival of

opinion in a sense co-ordinate with the conflict for and survival of life. There is no destruction of one conception by another. Survival of an opinion must evidently depend largely upon the survival of the race holding that opinion, and this survival may often be only most incidentally affected by the opinion itself. In tribal contests, famine, or the sword of a more muscular or numerous neighbour, may blot out a race in which subtlety of thought has been developed to a much higher degree than it has been developed in the race that conquers and survives.

On the other hand, the man who reflects and reasons, pictures the life of his fellow-man as it differs from his own, and if his imagination of the totality of results of certain habits in his neighbour is on the whole more pleasant than the picture of the results of his own differing habits, there is aroused an unconscious tendency within him to follow his inborn "imitative instincts" and to alter his mode of life to accord with that of his fellow.

This process would be effective to alter moral standards, and in ways which would be almost entirely indifferent so far as the laws of direct struggle for existence are concerned. These latter laws would not take effect in connexion with these differentiations until the alteration of thought had affected belief, and belief had affected action in some direction that related to the survival contest. As long as these changes of mode of life and standards were indifferent so far as the general welfare was concerned they would probably continue to gain in strength: when they became well established they might become distinctly advantageous or disadvantageous to the race, and then indeed they would become factors of importance in connexion with the law of survival: but from the ethical point of view the habit of imitation after reflexion is more important to be considered, so far as it relates to the formation of new and higher standards; and the development of this imitative instinct in the higher life of man, which is acknowledged by all psychologists to-day, makes it a most potent factor in that emphasis of variation through reason which we are considering.

§ 7. Enough has been said, I think, to convince the reader that with the growth in complexity of life in communities, as we experience it, there will be many forces at work leading to a repressal of racial influences and to an emphasis of individual variant ones: bringing about on the whole an emphasis of Reason and a subordination within us of

those impulses which tell of Instinct; and leading thus to a subversion of the order of instinct efficiency which has become established in us.

But, as we have already seen, the development of the higher life, so far as we can judge, is on the whole determined by a reverse process, *viz.:* by the subordination of the individual variant influences in Reason to the racial influences in Instinct; and by the emphasis of the order of instinct efficiency above referred to.

For, as we have noted above, it is difficult to conceive how any instinct can have been fixed in a race unless we suppose that the individual of the species acquiring the instinct has been better adapted to existence in his environment as the result of following this instinct than he would have been had he allowed variations to prevail. And in reference to the higher, the social instincts, which we are here especially considering, it is still more difficult to conceive how they can have been fixed in the race unless we suppose that on the whole the individual is indirectly better adapted to exist in his environment, and to perpetuate his kind, as a member of a social group, than would have been the case had he not acted as a part of a social group by the subordination of his instincts in the definite order we have already described.

If all this be true, then I think it is clear that perfection of racial life would seem to demand the evolution in the race of a governing instinct; of an instinct of a new and higher order, which would be regulative of reason in its relation to instinct, which would tend to suppress the variant principle and to emphasise the force of instinctive appeal, producing emphasis of instincts as a class and subordinating processes of ratiocination to impulse, and tending to establish the order of instinct efficiency which we find developed in us.

It remains for us to inquire whether there be any evidence of the formation of such a governing instinct, and to this inquiry we shall now turn.

II.

§ 8. In the sections which have preceded this we have noted certain influences and conditions which are likely to occasion the disadvantageous subordination of the social, the ethical, impulses to those of lower orders, notably to those which have only individualistic significance: and tendencies to such subordination we find appearing in our complex

civilisation. It seems probable, then, that if we study these causes with a view to the discovery of some means by which their evil effects may be counteracted, we are not unlikely to gain some notion of the nature of the governing instinct which, if it exist, would function in this same direction.

§ 9. In our study of these influences and conditions we first noted that this tendency to the emphasis of elemental variance and to the subordination of the ethical impulses was involved in the very fact that these higher impulses are determined by the existence of social aggregates which are of a low *quasi*-organic form, in which we individuals are elements, *and elements which are very lightly bound together, very loosely integrated.*

For in our earlier study we had seen that in the lower individual organisms in which the parts are very loosely bound together, and with which the *quasi*-social organism is to be compared, a tendency to action of the elements for themselves, and without regard to the efficiency of the organism as a whole, will appear under anything but the most ordinary stimulation of the parts affected by environmental conditions.

If this weak integration tend to emphasise variation, tend to invert the established order of instinct emphasis, if it be a cause of the subordination of the ethical impulses to those of earlier formation, to the individualistic and sexual, then our hypothetical governing instinct might be expected to contend against the results of this lack of integration.

It is evident, I think, that this tendency to disintegrative action, this tendency to the separate functioning of individuals as though they were no longer elements of the social aggregate, may be overcome in one of two ways: either by the acquisition of habits which will concentrate attention upon the social bonds which do exist, upon the community of interests, and upon the necessities of mutual aid; or else by the reduction of the stimuli to individualistic action through temporary separation from those surroundings in which non-ethical impulses are developed, or through voluntary restraint of the non-ethical impulses when they arise within us.

§ 10. If we turn to the consideration of the next point made above, we recall that we there argued that for many reasons the mere complexity of our modern civilisation tends to bring into existence that emphasis of the variant in-

fluences within us, to repress which the governing instinct for which we are searching would act.

It seems very clear that the disadvantageous emphasis of the variant influences thus occasioned may be overcome by the acquisition of habits which would lead men to break away from this increasing complication of life by a return to a simpler life in which there would be fewer distractions, as there were fewer stimuli to activity; and evidently this end may be reached by involuntary or voluntary separation of men from the active turmoil of life through more or less of seclusion in one form or another, or else by the acquisition of habits of voluntary restraint from the immediate reaction to the many varied stimuli which reach the man in consequence of this growing complexity in his environment.

§ 11. Again, we have seen (§ 4) that processes of reasoning tend to remain emphatic in consciousness while instinct feelings, and the impulses related to them, tend to disappear into that mass of unnoticed psychic states which makes up the field of inattention; and we have noted that this fact is often likely to bring about the disadvantageous emphasis of the variant influence of which we speak, for the simple reason that oftentimes a long continuance of attention is required before we are able to gain any cognisance at all of the existence of the wider instincts of broader import which should guide us, and because we are liable, therefore, in cases of strong or sudden stimulation, to act under the influence of forces which are of individualistic moment only. The governing instinct, if it exist, might be expected to function in some manner to enable us to avoid this danger.

This difficulty in our lives may evidently be overcome, if in no other way, by restraint from the actions dictated by reason until sufficient time has elapsed to enable the less obvious impulses to produce upon consciousness the effects which are peculiar to them: habits of such restraint will most easily be attained during periods of voluntary or involuntary seclusion from the stimuli to action which normally reach the man who is living an active life in the turmoil of a busy community.

In the same section, 4, we saw that in a manner not dissimilar the emphasis of the variant influences within us is often occasioned by the mistaking of individually acquired habit reflexes, which have only individualistic value, for true instincts, which are of racial import. The distinctive marks of the true instincts which it is so important for us to recog-

nise are found in the fact that they guide many individuals, and that in their higher forms they guide a given individual under many varied conditions.

Now evidently the important distinction thus to be noted, and in which process the functioning of our hypothetical governing instinct might be expected to aid us, can only be discovered by thoughtful reflexion upon the impulses which have guided our lives in the past, and which seem to guide others of our race; and it appears that one way in which opportunity for such reflexion may best be obtained will be by voluntary or involuntary seclusion from the distracting influences which bear upon us in our every-day life.

§ 12. We have seen that what we call success in life is determined largely by the emphasis of individualistic impulses, and that the desire for success is potent in suppressing the dominance of racial forces, which suppression our sought-for governing instinct should tend to oppose. Surely one way in which the effects of this wish for success and its resultants may best be regulated is by seclusion from the rest of the race without whose recognition success is an empty term.

§ 13. Finally we have noted that the tendency to imitate the actions of others who vary from what is typical in directions which we deem advantageous, is powerful in leading to the obscuration of the deep-lying ethical impulses.

But clearly the best means of overcoming this danger lies in the separation of ourselves from the influence of those who thus guide our actions, until such time as nature's impulses are able to assert themselves.

§ 14. The reader cannot fail to have noticed that in each of the five sections preceding this we have argued with perhaps tedious repetition that each and all of the important forces which we have noted as naturally leading to the over-emphasis of the variant influences within us may be held in check, if in no other way, by the acquisition of habits of seclusion from the distracting stimuli by which we are affected in our normal complex life; or else by voluntary restraint for the time from reaction to the influences which surround us. And it seems natural for us to suspect therefore that at least some considerable part of the expressions of the governing instinct for which we are in search will involve such restraint and such seclusion.

How can any one who has followed our train of thought fail to be impressed with the fact, which forces itself upon my own mind, that these habits of occasional seclusion and of hourly restraint are the most emphatic expressions of our religious experience. The very word "religion" was held by Cicero and others to have come into use because of its relation to habits of reflexion and restraint, and although it is not probable that we can correctly trace the word to so direct an origin (for it was probably used in less developed form before men realised the meaning of this restraint) still Cicero's derivation is important as showing how long ago the connexion between religious expression and restraint was noted.[1]

The leading seems so clear that I shall without further introduction ask the reader to consider with me the evidence that leads me to believe that religious activities are the expression of a true instinct, which we may speak of as the religious instinct: and that the function of this religious instinct in the development of our race is to bring about the subordination of the individual variant influences and the emphasis of the social influences within us; and at the same time to strengthen the established order of instinct efficiency within us.

III.

§ 15. But here, I imagine, some reader may ask what warrant we have for the first of the statements just made; what reason is there to believe that our religious activities are the expression of an instinct. It will be well, therefore, to consider this point with some care before we proceed further with our argument.

If an appeal to common sense be of any value, we do not need to look far for an affirmation of the instinctive nature of religion. I find by questioning that intelligent people very generally answer "Yes" if asked whether they consider religion to be instinctive; and the use of the term instinct

[1] It is interesting also in this connexion to call to the reader's attention a point made in Mr. Beare's article in MIND (N. S., 18, p. 229), where he shows that the γνῶθι σεαυτόν which was the foundation of religion as Socrates conceived it, had been long before his day taught as a precept by his religious predecessors. Over the temple entrance at Delphi Mr. Beare tells us "this piece of counsel, *know thyself*, stood conspicuously engraven": and it was at the first interpreted ethically. "Heraclitus, the earliest Greek philosopher whose remains contain any allusion to it," gave it this interpretation: "It behoves all men to know themselves and (? thereby) to exercise *self-control*".

in relation to religious activities in common speech is so usual that there can be no doubt this notion is generally held; although the implications involved in the assertion are in no sense realised. But we cannot take this common-sense view without question; we must examine the subject from the standpoint of Psychology.

As we have already seen in an earlier article, our instincts are those springs of action which exist within the organism: our instinct actions occur because we are organisms, and because as organisms we inherit with our organic structure habits of action which lead to the attainment of certain ends which have significance for the organism: and we inherit these habits because our ancestors have become better adapted to their environment in consequence of the recurrence of these tendencies to act in certain specific ways upon the appearance of the appropriate stimuli.

Instinct actions, as I have observed in the first article of this series, are determined first by their organisation and especially by some biological end which this organisation subserves.

I shall not attempt here to establish the first point; *viz.*, to show that the actions expressive of religious feeling are organic in their nature; the proof of that will appear as we proceed with this particular discussion, and will become convincing, I think, before we conclude this consideration in the next article of this series. But the question as to the existence of a biological end related to religious expression is one which may well engage our attention.

As I have already said, we naturally take as examples of typical instincts those particular instincts which express themselves by what seem to us to be invariable actions occurring in definitely co-ordinated relation to one another, so that the actions appear to be always the same, and to be aroused always by the same stimuli.

But, as we have seen, the definiteness and the invariability of the co-ordination of these actions are relative definiteness and relative invariability only. This became evident to us when we noted that many instincts, even of the lower types, show that their efficiency depends upon the trend of the activities they induce, even where there is a certain degree of variation in circumstances of stimulation or in the stimuli themselves, and consequently in the reaction to these stimuli.

The reader will also recall that as we studied instincts of a higher type we found less definiteness and invariability of reaction, and a marked preponderance of cases where the

guidance of our actions to the production of certain ends is attained by the strengthening of certain trends of action which thus come to persist through many differences of stimulation and through many variations of reaction.

This fact is illustrated by the instincts that relate to the foundation of the family, which act indirectly through many efforts tending to the accumulation of food or property by the man, and to protective care of the young by the woman: nobody hesitates to speak of the paternal instincts nor of the maternal instincts. It is illustrated again by reference to the ethical instincts which tend to bring about social consolidation; and this through the most varied of actions that are often apparently guided by the most varied of conscious aims, which often seem to the actor to lead in any direction rather than towards the racial ends that we believe these social instincts subserve: we agreed that no one should hesitate to speak of the patriotic instincts nor of the benevolent instincts.

Now I think it will be evident to the reader that if the governing instinct for which we are searching exist at all it is likely to appear, as do all the higher instincts, as a most general trend of action running through many diverse forms of activity.

We see therefore that in general we need not conclude that the activities which we surmise may relate to an end which we are considering are not of an instinctive nature because we find the trend of these activities difficult to trace in many ways or because the immediate end that Nature has in view is not instantly clear before our eyes.

I am in complete agreement with Professor Lloyd Morgan when he cautions us that instinct actions must be carefully separated from those actions which are attached to them by accumulated experience, or by imitation, or by "tradition": nor can there be any question that with the actions we are discussing this separation is exceedingly difficult. But on the other hand I hold that even in cases where this separation is impossible in many directions, we are nevertheless warranted in suspecting the existence of a true instinct provided we are able to discover some biological end which is subserved by the general trend of a series of varied activities.

That we are able to discover the biological end which is subserved by the actions expressive of the religious feelings, I have already suggested. I shall hope to convince the reader of the correctness of this view in the next number of this series; and this I shall attempt to do by the accumula-

tion of evidence which enables us to sift away much that is extraneous, and which places in relief the important relatively stable elements which appear in all the varied religious expressions.

§ 16. It seems to me that a strong argument in favour of the instinctive nature of religious expression lies in its universality in man in one degree or another.

It is indeed true that some observers tell us that there are certain savages and some small proportion of the degraded of our own race who show no tendencies to religious expression, and who can formulate no religious thought: but so far as this is true, it is probably due to a lack of the conditions which usually stimulate to such expression: and we surely should not be led by this fact, if it be a fact, to pronounce in general against the existence of a true religious instinct in man by which we may account for his religious expressions and sentiments. As well might we deny the existence of the maternal instinct because we find human mothers who seem to be lacking entirely in maternal feeling: as well deny the existence of patriotic instincts, or of benevolent instincts, because a small proportion of men are cowards, or utterly selfish and cruel.

It is very true that the masses of the people are influenced to religious expression from their early childhood by habits enjoined upon them by those who guide their young lives; or by imitation of the actions of those whom they fear or admire. It is indeed barely possible, theoretically, that if a child were brought up without any religious influence whatever, it might show none of the characteristic religious expressions; although satisfactory experiment in this direction could scarcely be made, for the simple reason that religious expression direct or indirect is so widespread in all that we see and hear in life that it would be all but impossible to make an experiment of the kind mentioned which would be conclusive. But suppose for the moment that the experiment were successfully made, we should certainly not prove thereby that religious activities are not instinctive: as well might one attempt to prove that the little alligator has no instinct leading it to snap at its enemy by experimentally eliminating from its environment the stimuli which bring the instinct into evidence.

As a matter of fact the mark of the existence of an instinct within us is not the appearance in all men of certain activities, but rather the aptitude for the production of certain co-ordinated actions, of certain trends of action, *if the*

appropriate stimulus be given. And under such a criterion the instinctive nature of the religious force within us must surely be granted: for one will scarcely deny that civilised man has a natural aptitude towards religious functioning, which is brought out under the most unexpected circumstances, upon the occurrence of the most subtle of stimuli.

§ 17. Here I would beg my reader to note that the governing instinct, if it exist at all, must be one which would be appreciably developed in man only; for we know of no race of animals in which the ethical impulses are highly developed, and none in which the tribal life is noticeably dependent upon the subordination of other instincts to racial instincts, so far as the latter do exist in them.

It is an interesting corroboration of our supposition, therefore, to find that the religious activities are, so far as we know, developed in man only. It is true that certain attempts have been made to trace evidence of fetich worship in the higher animals; but the actions observed are all explicable in terms of surprise and its resultant fear; and as we shall see in the next article, although the arousal of fear may possibly have led in the beginning to the primal forms of religious expression, it can in no way have led to the persistence of the tendency to the appearance of religious expression in its many modified forms; and this fact of persistence is after all the matter of highest importance in our consideration.

But furthermore, not only do we find that religious expression is limited to man, but we discover, as we should expect, that it varies in correspondence to the changes in man's character; that it is developed in its most complex forms where man's tribal life is most complex. If religious activities be the expression of an instinct which has to do with the emphasis of impulses that are important for the development of social life, then surely we should expect just what we thus find—*viz.*, that its highest developments would appear in those races in which social consolidation is most advanced: it seems to me that the history of our race proves this fact.

It is indeed true that religious inspiration, so called, has often been and is still gained in solitude, but the power of a religion is tested by its influence upon the social life of the community in which it is preached. If we refer to the history of ancient civilisations we find the complexity of their religious conceptions and expressions co-ordinate with the complexity of their social fabric.

In our day the nearest approach that we find to a man without religion is the savage of the icy plain, the barbaric negro of the deep forest, the cannibal of the desert island; and with all these low types of mankind it must be agreed that social life and the social instincts are at most but embryonic.

Among all the civilised races religious expression is found, and the more complex their social organisation, the more prominent become the actions of religious expression in the history of the people.

§ 18. Religious activities like the expression of all true instincts seem often to be spontaneously developed. The masses of mankind do not have to be argued into the expression of religious feelings: rather is it true that rationalistic or other barriers must be raised if we are to prevent the expression of the religious force that is found in man in varying degree. And even then, however fully we may acquiesce in the dictates of an inquisitorial power, or be led by argument, however much we, under such influences, repress our religious impulses, they still exist within us, calling upon us aloud at times to give them play, and forcing themselves to the front in moments of weakness or despair.

The most pronounced of atheists seldom fails to pray in the face of terrible danger or deep sorrow.

§ 19. I shall assume then, from this time on, that my reader agrees with me that the religious instinct exists within us; that religious actions are the expressions of a force which, as in the case of other instincts, is organic in its nature; that our religious impulses are determined by the nature of the organism that we inherit. But from this time on, I also wish to lay especial stress upon the fact above discussed, but usually little appreciated; *viz.*, that if it once be allowed that a religious instinct exists which, broadly speaking, is developed in all of mankind, then evidently we are immediately forced to the conclusion that the religious instinct must subserve some valuable function in the biological development of the human race.

For as we have so often said above, it is exceedingly difficult for us to conceive how any instinct can have arisen, how it can have become developed and elaborated, and more than all, how it can have persisted from generation to generation, as has this religious instinct so far back as we are able to look into the history of the earliest of civil-

isations, unless it has fulfilled some function of value in the development of the race.

It is of course always possible that certain habits of action may have become fixed in our race that have no bearing whatever upon the persistence of the race: habits which are inherited because they belong to a race which has come to persist for reasons entirely unrelated to these habits: but this supposition is difficult to sustain in relation to any instinct which is widespread and persistent in a race, as is the case with the religious instinct in man. And on the whole we are compelled to assume that there is little probability that the religious instinct is one of the few exceptions to the general rule which connects instincts with functioning advantageous to the race in which they appear.

That I believe the function of the religious instinct can be traced I have already stated: and I shall devote the next article of this series to an attempt to show in some detail that religious expressions, of ceremonial or of other kinds, whilst on the whole of little advantage and often of distinct disadvantage to individual life, are on the other hand advantageous on the whole to the tribal life of the social organism which we believe to be beginning to develop. I shall further attempt to show that this advantage accrues through the subordination of the individual variant elemental influences within us, and the emphasis of the racial influences; this subordination and emphasis being brought about by, or in necessary connexion with, the habits of action which form the expression of this religious instinct; we being able thus to account for the persistence of these habits of action, although we recognise, as I have just said, that to us as individuals they are apparently at times of disadvantage and ordinarily of no appreciable value.

§ 20. In closing this article let me say just a word upon one subject to which a separate article might well be devoted, and which I am unable to treat adequately in this series without overstepping the limits of space which I am able to ask the editor of MIND to allow me.

In all that has preceded this I have been calling attention to the importance of the subordination of elemental variance to typical action, and I have argued that without this subordination our social life as it exists could not have been built up.

But I must not be understood to hold that variance is not in itself of importance. If material changes occur in en-

vironmental condition, using the term in its widest sense, then typical reactions may be the very ones which will lead to destruction; and, on the other hand, in variations from typical reactions may appear our only hope of prosperity or persistence.

But what I hold is that, so far as we can see, the growth of social aggregation in *quasi*-organic forms has been dependent in the past upon the subordination of variant influences, and therefore that unless we are convinced that the conditions of biological development are changing in important directions we are bound to hold that, in general, variance from typical forms should not be undertaken without this serious consideration—*viz.*, that in acting contrary to these typical forms we are acting in opposition to the experience of the race from which we are descended, which experience has left its mark in us in the establishment of these very instincts which call upon us to live as our ancestors have lived.

On the other hand, however, if after full consideration we become convinced that conditions have thus changed, then it seems to me equally clear that we are bound to take the risk involved in action in opposition to instinct, although this action be opposed to the experience of our race as ingrained in us; and we are bound to take this dangerous risk in the interests of the progress of our race in its effort to accommodate itself in the best possible manner to an environment which is never stable, which is daily altering in minor details, and which perchance may at any moment have come to differ in certain directions from that environment which in the past has determined the formation of the impulses which guide us to-day.

IV.—AN ATTEMPT AT A PSYCHOLOGY OF INSTINCT.

By Alice Julia Hamlin.

In the scientific authorities of to-day we find widely different and contradictory statements with regard to instinct. Psychologists of the same school often differ noticeably in the use of the term, while both the scientists of mind and of nature trespass on one another's preserves without any consciousness of being outside their own domain. There *is* a psychology, as well as a biology and a physiology of instinct. The proper field of the biologist is obviously the investigation of the origin and development of instincts in the race-history of any order of animals. He must estimate the influence of environments, of individual acquirements and of heredity. The physiologist must study the structural and functional basis of instinctive activity in the individual. As Höffding says, "the original organisation of each individual is a given starting-point connecting the heritage of the race and the activity of the individual".[1] What this connexion in the organism may be, we must leave entirely to the physiologist to discover. It remains for the psychologist to explicate the nature of instinct in so far as it is a *mental* process. He must make a cross section of mind at the time when instinct becomes a conscious state. He must describe the whole mental contents or the psychical composition of instinct.

There has been little recognition of these differences in standpoint from which the three sciences regard instinct. The inevitable result of such neglect is the confusion and inconsistency present in the general treatment of the subject by even the most eminent men of the day. Attention is called to this confusion in the use of the term instinct by Professor C. Lloyd Morgan in an article in *Natural Science*, May,

[1] Höffding's *Psychology*, tr., p. 91.

1895, entitled "Some Definitions of Instinct". In the opening paragraph of the article Professor Morgan does barely allude to the fact that the psychologist's standpoint is not the same as that of the biologist; but he does not define the difference, and he makes no use of the distinction in his extended notice of the contradictions rife in writings upon instinct. And though he quotes freely from the most important psychological writings on the subject, his article does not satisfactorily represent the views of some of the writers cited, and does not attempt any investigation or reconciliation of their differences. This is probably because Professor Morgan's aim was the suggestion of definitions of instinct that would be acceptable to *both* psychologists and biologists. It seems to me to be equally worth the while to attempt a fuller presentation of the treatment of instinct by psychologists; to see the reasons for their variance, and to reconcile their differences where this is possible. We may finally glean from their discussions a consistent and satisfactory psychology of instinct. We shall refer to the psychologists quoted by Professor Morgan, and also to some of the natural scientists (Darwin, Romanes, and Morgan himself). In addition, we include in our study Bain, Carpenter, Lehmann, von Hartmann and Volkmann.

The confusion in psychological writings on instinct is largely due to the looseness in the terminology of the science in general, and of this topic in particular. Instinct may be synonymous with, exclusive of, or included under, the term impulse. It may include or exclude what is habitual. It is used as equivalent to innate, or again it is restricted to certain kinds of connate activities; and so on. The utterances of each psychologist have to be interpreted in terms of his complete system. To make any fair comparison of opinions, then, we must occasionally interrupt our series of quotations to call to mind the real significance of the terms in any given quotation.

The important differences of opinion with regard to instinct cluster about five principal questions. Is instinct a conscious process? What is the relation of external and organic (internal) stimulus to instinct? What is the relation of instinct to intelligence? To feeling and emotion? To impulse? Under each topic references will be given to the conflicting theories now in the field. Where the differences cannot be reconciled, I shall venture to emphasise whatever seems to me to contribute to a full and consistent psychology of instinct.

1. *Instinct vs. Reflex Action: Is Instinct a conscious*

process? In proposing to write upon the psychology of instinct, I have assumed that it is a conscious process: otherwise it would not come within the province of psychology. But protests have been raised against this assumption. What basis is there for such protests, and how have they been answered?

The chief exponent, among psychologists, of the theory that instinct is an unconscious process is Herbert Spencer. He defines instinct as "compound reflex action". "No instinct need ever have been intelligent. In its higher forms it is probably accompanied by a *rudimentary* consciousness, but this is an effect of the growing complexity of the instinct."[1]

Wundt remarks that Spencer's theory "accounts for the *material* which the animal has at its disposal, but not for the *form* which is the real result of its work. That the caterpillar secretes silk, and the bee wax, is just as much a matter of physical necessity as the emission of any other secretion. But that these substances are worked up in such definite and artistic forms is altogether inexplicable from the facts of physical organisation."[2] And again: "The reflex theory assumes that the sucking movements of the new-born mammal are not only involuntary, but unconscious. It is hardly a theory that any one would hold, who had ever really seen the movements of a hungry infant. If emotional expressions have any significance at all, the infant's movements can only be interpreted as psychically conditioned actions, *i.e.*, manifestations of impulse."[3]

Romanes also criticises Spencer's theory, and maintains with Wundt that instinct must be conscious. "Instinct is reflex action into which there is imported an element of consciousness."[4]

These two writers give us three classes of facts which require the assumption of consciousness in instinct. (1) Instinctive actions are often accommodated by the individual to changes in external circumstances. (2) They do not follow immediately upon definite stimuli, but depend *also* upon the disposition of the animal. (3) In the higher animals, at least, they are accompanied by unmistakable expression of emotion.

Romanes admits that there is difficulty in determining

[1] Spencer's *Principles of Psychology*, chap. xii., sec. 194.

[2] Wundt's *Lectures on Human and Animal Psychology*, tr., p. 392.

[3] *Op. cit.*, p. 400.

[4] *Mental Evolution in Animals*, p. 159.

the presence of consciousness in many cases, but affirms that this does not invalidate his definition.

Professor Lloyd Morgan takes middle ground. He refuses to accept consciousness as a criterion of distinction between instinctive and reflex action, because "the same series of activities may probably at one time be unconscious, and at another time conscious; and because many actions almost universally regarded as reflex, may at times be accompanied by consciousness".[1] He prefers to distinguish reflex and instinctive activities by the organised sequence and co-ordination present in instinctive actions.[2] Yet Professor Morgan himself recognises the answer that any psychologist would make to his reasons for objecting to the definition of instinct as a conscious process. *Other* processes, universally admitted to be conscious, may become so mechanised by habit that they may be unconsciously performed at times. So in his more recent article he admits that 'instinct' *is* conscious, defining it as a "connate psychological impulse,"—while instinctive 'activities' *may* be conscious or unconscious.

Höffding distinguishes instincts (1) as more complex than reflexes; (2) as including an obscure impulse of feeling, and consequently a *sort* of consciousness,—though not consciousness of the end of the action; and (3) as involving a direction of various powers to a more or less distant end outside the individual consciousness.[3] We need give only passing notice to this definition here, for it will reappear under a later heading of this paper.

2. *The relation of Instinct to external and organic stimulus.* The various attempts to distinguish between instinctive and reflex action have raised much discussion about the part played by sense stimuli in the initiation of instinct. Trying to draw too fine distinctions here, some of the authorities flatly contradict each other. For instance, Romanes states that "the stimulus which evokes a reflex action is, at most, a sensation; that which evokes an instinctive action is a perception";[4] while Carpenter asserts that the stimuli for reflexes are wholly unconscious, and that instincts are excited by impressions on the organs of sense.[5] Such restrictions of either term are too closely drawn, and

[1] *Animal Life and Intelligence*, p. 433.
[2] *Op. cit.*, p. 422.
[3] Höffding's *Psychology*, tr., p. 91.
[4] Romanes' *Mental Evolution in Animals*, p. 159.
[5] Carpenter's *Mental Physiology*, p. 48.

have found no general acceptance. We must look elsewhere for the answer to the question of the relation of sense stimulus to instinct.

Professor Baldwin takes an extreme position. He defines instincts as "complex motor tendencies stimulated *from without*".[1] This statement is not in accordance with the prevailing theories of the relation of sensation to instinct; for while many authors (Bain, Sully, Preyer, Höffding, Volkmann, etc.) recognise the presence of sensations in instinct, they lay little stress upon objective stimuli. They rather call attention to stimulus coming from within the organism. Volkmann, for instance, states that the "affectively toned excitations which initiate instincts have their ground in organic processes".[2] Höffding and Preyer reconcile the two views by maintaining that *both* external stimulus and organic tendencies are necessary. Preyer's statement is somewhat as follows: after admitting that sensory peripheral excitation is one essential condition for instinctive movements, he goes on to assert that "if a special disposition or feeling is wanting, then the instinctive movement is not made even under the strongest and most appropriate stimulus".[3] In the same way Höffding points out that although "some stimulus is required to set instinct to work, yet the action is determined far more by the motor tendencies implanted in the individual than by the nature of the stimulus; this latter serves only as the opening of a valve".[4]

Summarising the results of our references on these two topics (Instinct and Reflex Action: Instinct and Stimulus), we find a very general acceptance of four points. (1) Instincts are directed to an end, of which the organism is unconscious. (2) They are more complex than reflexes. (3) They are less unequivocally correlated with stimulus. (4) They contain an element of some sort of consciousness.

The psychologist is chiefly concerned with the examination of the fourth point; he must determine *what* sort of consciousness is present in instincts. There have been three answers to this question. Some writers have maintained that consciousness is present in instincts in the form of inherited knowledge, thus placing instinctive actions under the control of intelligence. Others say that instincts are for consciousness merely emotions, or else mere feelings of

[1] Baldwin's *Handbook of Psychology: Feeling and Will*, p. 308.

[2] Volkmann's *Lehrbuch der Psychologie*, sec. 146.

[3] Preyer's *Die Seele des Kindes*, part i., chap. xi.

[4] Höffding's *Psychology*, tr., p. 312.

pleasure and pain. Others, again, classify them as impulses, asserting that there is a consciousness of activity in instincts.

3. *Instinct and Intelligence.* The first answer demands least attention, since it finds little support at the present time. On account of the evident purposiveness of instinct, Spalding and others have thought that it must be regarded as the manifestation of inherited ideas. The great majority, however, reject the theory for reasons stated by Wundt[1] as follows: (1) "It is impossible to prove the existence in our own minds of any ideas which do not spring from the experience of the individual life". (2) "The observation of instinct does not by any means give unqualified support to this hypothesis." On the one hand it offers no explanation for the frequent variations of instinct; on the other hand, in order to account for the minute uniformities of instinct, it must assume "not only a single innate idea, but a whole connected series, in a word an innate activity of thought with a large store of experience behind it".

The question of the relation of instinct to intelligence leads us to digress for a moment into an examination of the theory of instincts as "lapsed intelligence". We are here trespassing upon the biological domain; but our intrusion is justified by the fact that the theory is dependent upon certain psychological assumptions in regard to the nature of animal intelligence.

Lehmann and Lewes refer all instincts to lapsed intelligence. Lehmann defines instinctive movements as "those excited more or less immediately, since by frequent repetition the directing ideas (always present in these movements at first) have become no longer necessary".[2] Volkmann holds a theory which is just the reverse of this: "Instinct is an impulse arising without the presence of an idea".[3] It comes from an affectively toned excitation grounded in organic processes.

Between these extreme views stand a large number of the most important writers on the subject. They accept the theory of lapsed intelligence as a partial explanation of instincts, and especially of those observed in the higher animals. But they find it equally necessary to assume the Darwinian theory, since it covers instincts in the lower animals that are inexplicable by the alternative hypothesis.

[1] Wundt's *Human and Animal Psychology*, tr., p. 393.

[2] Lehmann's *Hauptgesetze des menschlichen Gefühlslebens*, sec. 183.

[3] Volkmann's *Lehrbuch der Psychologie*, sec. 146.

Wundt remarks that Darwin's theory explains instinct as "inherited habit determined principally by the influences of environment".[1] And he adds that there is no necessary antagonism between this view and that which makes instinct a mechanised (or "lapsed") intelligent action. Both theories are held by Wundt, Baldwin, Romanes, Morgan, Sergi, Sully and others.

Wundt is the only psychologist to attempt a definite statement of the *nature* of the intelligence present in instinct. In his fullest discussion of instinct he says: "A large number of the manifestations of mental life in animals are rightly ascribed to individual experiences, the mechanism of which can only be explained in terms of association".[2] And elsewhere he refers to instincts as "developed through ideas and the associative and intellectual processes involved in the apperception of ideas".[3]

Whatever may be the final decision upon the importance of intelligence in the formation of instincts, we are ourselves chiefly concerned with the analysis of intelligence so far as it is present in instincts, as they actually now exist. The following conclusions are supported by the best discussions of instinct, and seem to summarise all that can be definitely settled with regard to the place of intelligence in the complex process called instinct. Ideas are undoubtedly present, either in the sense of the perception of external objects or organic stimulus, or in the sense of the perception of the movements more or less directly connected with these perceptions. There is, however, in instinct proper, no idea of the end to which the movements are directed. The ideas present are often vague, though accompanied frequently by intense feeling or emotion, and there is no precise correlation between the perception of a given object and the instinctive action. (The chicken will peck at a carpet or a newspaper as readily as at a grain of corn.) We find intelligence here only in the narrow sense of simple association of ideas. And the connexion of instinctive movements with the ideas that initiate instincts is largely dependent, as we shall see later, upon the presence of some feeling, emotion or mental disposition. Instinct, then, is not essentially an idea or group of ideas. We have now to turn to more difficult questions: the relation of instinct to impulse, and to feeling.

4. *Instinct and Impulse: Is Instinct voluntary?* Here,

[1] Wundt's *Human and Animal Psychology*, tr., p. 389.

[2] *Op. cit.*, p. 390.

[3] Wundt's *Physiologische Psychologie*, 4th ed., ii., p. 513.

of course, we find very considerable disagreements among the authorities. On the one hand, there is a fundamental divergence of opinion due to the diverse theories of will held by different schools of psychology. On the other hand, we notice many differences in statement that owe their existence more to different uses of terminology than to any real discrepancy in theory. We have, in fact, a quadruple confusion; divergence on the relation of impulse to will, and on both sides of this divergence confused and inconsistent uses of the term "impulse"; divergence, again, on the relation of instinct to impulse, and again much confusion in the definitions of both terms. We cannot hope finally to disentangle this snarl of conflicting statements. But by selecting typical instances and recalling the different interpretations of "impulse," we shall gather up what is most important for our present purpose.

As representatives of those who regard will as the fundamental process of mind, and impulse as a manifestation of will, we take Wundt and Höffding. The following quotations give Wundt's position. He defines impulse as "that in which sensation and will are operative in a fundamental connexion". Thus it is "the actual element of all mental activity".[1] "Impulse is a simple act of willing unequivocally determined by a single feeling."[2] Holding impulse to be the primal and elementary reaction of the mind to external stimuli, Wundt goes on to say: "Individual development supports the general theory that voluntary acts have not developed out of reflexes, but that reflexes are stable and mechanised acts of will".[3] Instinctive action is also impulsive, that is, voluntary action; and however far back we may go we shall not find anything to derive it from except similar, if simpler, acts of will.[4]

Höffding agrees with Wundt in making will the fundamental and original form of consciousness.[5] And he also makes instinct a manifestation of impulse. But, unlike Wundt, he holds instinct to be more primitive than any other manifestation of will, whereas Wundt derives instinct from preceding acts of impulse. Hence impulse with Wundt may be reaction to a sensation without consciousness of the end to which the action is directed; while with Höffding impulse *is* conscious of its end, and it is only instinct which acts blindly.[6]

[1] *Op. cit.*, ii., p. 640. [2] *Philosophische Studien*, vi., p. 376.
[3] *Physiologische Psychologie*, ii., p. 591.
[4] *Human and Animal Psychology*, tr., p. 409.
[5] Höffding's *Psychology*, tr., p. 99. [6] *Op. cit.*, p. 323.

As representatives of those who distinctly recognise the active element in instinct and impulse, yet do not regard these as the primal activities of mind, we may take Bain and Sully. Sully defines instinct as "a truly active phenomenon in the shape of a semi-conscious impulse to act,"[1] etc. And again: "We find in the element of impulse, which is so marked a constituent of instinctive action, a distinctly active element, which forms the analogue and in a sense the true genetical antecedent of the conscious pursuit of an end".[2] Bain agrees with all this, referring to instinct as "a voluntary act in its initial form".[3] But where Sully alludes rather vaguely to its dependence upon some original spontaneous activity, Bain gives a clear and positive account of the development of instinct from an earlier spontaneous activity and its accompanying pleasure and pain.[4]

Other writers give little or no recognition to the active element in instinct. As an Herbartian, Volkmann defines impulse as "the motive force of an idea". Instincts are "blind impulses" starting from "affectively toned excitations grounded in organic processes". "They do not originate from voluntary action," but by frequent repetition prepare the way for it.[5] Baldwin's explanation of instinct and impulse by "suggestion" seems to be really akin to Volkmann's view, though expressed in other terms.

Those who, like Lehmann, "hold expressions of feeling to be fundamental, and consider that impulsive and instinctive movements have been derived from them,"[6] may be left for special consideration, under the following heading. Enough, I think, has been said to prove the need of something more nearly approaching uniformity in the use of terms, as well as the need of a more definite recognition of certain necessary differences in these terms when used by fundamentally different schools of psychology.

I cannot attempt here to bring order out of this chaos. For my present purpose it is sufficient to pass two comments upon the various opinions expressed with regard to the relation of instinct to impulse and will. (1) All writers recognise an active element in instinct, either as original and voluntary activity, or as a motor discharge of some sort.

[1] Sully's *The Human Mind*, vol. ii., p. 186.

[2] *Op. cit.*, p. 192.

[3] Bain's *Senses and Intellect*, p. 413.

[4] *Op. cit.*, pp. 246-316.

[5] Volkmann's *Lehrbuch der Psychologie*, secs. 143-146.

[6] Lehmann's *Hauptgesetze des menschlichen Gefühlslebens*, sec. 192.

And (2) there is less real than apparent difference in definitions of impulse as voluntary or involuntary. Wundt, for instance, defining impulse as "univocally determined action," calls it "voluntary"; while many others, using the same definition, call it involuntary. "Voluntary" actions, with the latter, are restricted to acts of choice.

I conclude, then, that the active element, whether called voluntary or not, is more prominent and unmistakable than the ideational element; and pass on to the consideration of the affective element.

5. *The Affective Element in Instinct: Instinct, Feeling and Emotion.* I have unavoidably touched upon this topic in many preceding quotations bearing upon the relation of sensation and impulse to instinct. With the exception of those who deny that instinct is a conscious process, all the writers whom I have cited refer with more or less emphasis to the presence of pleasure and pain in instinct. There is, however, much difference in their estimate of the relation of feeling to the other elements present.

Carpenter and Romanes hardly refer to the importance of pleasure and pain; while Lehmann, Schneider and others make feeling "the foundation of all psychical life".[1] Wundt and Höffding do not regard feeling as thus fundamental, but still consider it a necessary constituent of instinct. So Wundt says "the interaction of external stimulus with *affective* and voluntary response constitutes the real nature of instinct at all stages of organic evolution".[2] Bain makes feeling of great importance in his theories, since he maintains that pleasure increases vital energy, while pain lessens it. This fact, in his opinion, is what makes instinctive and impulsive action possible.

We need not enter into the controversy upon the comparative importance of feeling and will. We are more concerned to know just what is covered by the element of "feeling" in instinct. Some think of it as the tone of the exciting sensation (Bain and Volkmann). Sergi speaks of the pleasure or pain as the *result* of the instinctive action. Sully finds emotion, rather than mere feeling, present, and describes instinct as "a vague, undefined craving for something, and a restless striving for its realisation".[3] All three opinions are correct in many cases,—emotions being present, I suppose, only in the instincts of the higher animals.

[1] Schneider's *Der thierische Wille*, p. 85.

[2] *Human and Animal Psychology*, tr., p. 409.

[3] Sully's *The Human Mind*, ii., 186.

In conclusion, I venture to propose a formula to represent what the psychologist finds in making a cross section of the instinctive consciousness.[1] In constructing the formula I assume that there are three elements of mind,—sensation, affection (pleasure-pain) and conation. Whether the activity intended by the third is an experiential fact or an inference from experiential facts, whether, *i.e.*, conation denotes an 'active' process or a complex of organic sensations, is of no importance for the present purpose.

The element of sensation I would represent by a small *s*. This covers all ideas and perceptions actually present in instinct. Ideas are undoubtedly a part of the instinctive consciousness, but they are obscured by feeling and impulse. As has been said already, there is no idea in instinct of the end toward which its acts are directed, and no precise correlation of the acts with external perceptions.

The affective element is more conspicuous and more decisive in its influence. Whether present as mere feeling of pleasure and pain, or in the form of emotion, it is often the most prominent element in the instinctive consciousness. If mere feeling is present I represent it by a large *A*. This represents alternating pleasure and pain, accompanying either the introductory organic sensations or the instinctive action. If feeling is present in the form of some emotion we have, besides the affective element, a distinct idea or group of ideas, which we may represent by a large *S*, and the less noticeable active element which we represent by a small *c* (conation). Emotion will then be symbolised by *SAc*.[2]

Finally, we must recognise the importance of the impulsive character of instinct, and conclude our formula by a large *C*. There is unquestionably present in very many cases of instinct the most intense 'consciousness of activity'

[1] The formula used here is one already given by Professor Titchener in the *Philosophical Review*, iii., p. 430. The accompanying paragraph is a concise statement of several points which have been elaborated in the present paper.

[2] The emotions present in instinct are commonly misrepresented by the terms in which they are described, both in scientific treatises and in popular works. When a bird flies off its nest to attack an intruder, it is wholly unpsychological to refer to the act as a manifestation of the instinct of maternal love. A cross section of the bird's consciousness would probably give a blurred perception of the intruder, accompanied by a flurry of most unpleasant organic sensations of varying nature and intensity, which bring up in turn a series of impulses to fly back and forth, and to utter sharp, quick cries. "Maternal love," "sympathy," and all similar terms should be applied to intelligent and consciously purposive action; and this is just what instinct is *not*.

(whatever this may prove on analysis to be) of which the organism is capable. If migrating birds are imprisoned in the autumn, they beat against the southern side of the cage with extreme force and persistence. It seems absurd to suppose that there is no conscious prompting to these efforts. Neither can such a hypothesis account for the very frequent modification of instinctive action by intelligence. It is true that the prompting to activity becomes more and more obscure as we pass down the scale of animal life. Yet if Wundt is right in regarding *impulse*, or a consciously active response to the environment, as the fundamental characteristic of animal life, then the conative element must be present in even the lowest forms of instinctive action.

Whatever one's attitude towards Wundt's primary assumption, his discussion of instinct, as the preceding quotations must already have indicated, is by far the most thorough and complete. Writing from the strictly psychological standpoint, he has taken up important points ignored by others, and is guilty of no confusion of biological interpretation with psychological analysis. His conclusions are in substantial agreement with the formula here given.

Uniting the elements noticed above, our formula will stand as sAC; or, if emotion is present, as $s\,[SAc]C$. For the psychologist, that is, instinct is a conscious complex in which the perceptual elements are more or less obscured by the strong affective tone of the mental state and by the impulse to activities which the animal performs without consciousness of their end, and by means of a mechanism provided by its physical organisation.

V.—VARIETY OF EXTENT, DEGREE AND UNITY IN SELF-CONSCIOUSNESS.

By Sophie Bryant.

As one of the many grounds for variety in human nature not the least interesting are the degree and extent to which the self has become conscious of its qualifications, and the unity preserved by self-consciousness as it develops. From the relative self-unconsciousness of three years to the self-consciousness of thirty there are many stages, with possibilities of omission, or of breach and confusion at every one. Thus we may expect to find variety, not only in the qualifications of the individual self expressing itself through instinct, but in its methods of self-revelation and the effects of that method. The self become conscious is a new factor in life, shaping it not just as the unconscious self does.

1. *Effects on character as self-consciousness deepens and spreads.*

Self-consciousness is the means by which the nexus of instinct becomes continuous with the nexus of reason. It is through self-consciousness that reason plays *on* instinct to modify it, and through the same medium instinct presses for translation into practical ideas — maxims of the instinct—and thus modifies reason by finding voice in it. In short, without self-consciousness the unity of self and reason could not be complete—could not even be an end pursued. Reason would develop as one whole seeking unity; Instinct would develop as another whole or more probably as a chaos. The two connected together in one life, but not interpenetrating each other, might jog along side by side in fair agreement more or less so long as circumstances did not evolve any serious disparity in the natural bent of each. But if circumstances did occur provoking a conflict between instinct and the practical ideas hitherto accepted as practical wisdom, then either there must be a battle and a defeat, or a solution must be found in which the instinct gets itself accepted as standing

for a sound maxim. Now the defeat of reason by an instinct, as such, is demoralising, even when the instinct is better than the narrow view of life it overturns. Such a defeat is the beginning of a bad habit: if one instinct may defeat reason so may another. Hence it is actually true that such innocent Sabbath breaking as in a Catholic country would be the order of the day (led by the ministers of religion, with the county brass band), may be the beginning of moral perdition in Sabbatarian Scotland. The defeat of the instinct by reason, on the other hand, is the common case of resisting temptation. Yet it may be that the instinct, as judged by a higher intelligence, is more reasonable than the half-awakened reason with which it conflicts, and then there is need for some process by which the instinct, *making its pressure felt*, comes to be translated into an idea and to gain acceptance as a principle among other principles of action. This is the function which self-consciousness performs; and probably its development is greatly forwarded by a life full of much ethical demand and difficulty, requiring frequent readjustment of principle to include the wisdom and exclude the unwisdom of instinct.

Even in our full blossom of practical wisdom we differ curiously, though within limits, from one another. On the same plane of wisdom our first principles may be the same, and even then the distribution of emphasis—the emphasis of instinctive individuality—among them may be so different as to make the totals differ widely. My practical wisdom is, relative to me, the best formula I can find to include all the better impulses of my nature, some of which would fail to thrill in response to some other formula ideally better. The variety of these formulæ is as the variety of tunes that can be played with the seven notes of the musical scale. Thus, though we conceive the moral law as one, the individual conscience hears it as a melody varying with the unconscious nature of the individual. The perspective of reason varies with the instinctive point of view. Our original differences do not vanish with growing self-consciousness though they become less acute.

We are here concerned, not with this unconscious but with another kind of diversity, the extent, namely, to which self has become conscious. On this depends the extent of the united as compared with the dual self. It cannot be doubted that most persons, if not all, are in this sense more or less dual: there is a something or other of instinct left over in them of which they could give no

account—do not know,—but which does or may influence their conduct, and might on occasion of conflict, formulate itself in consciousness as a principle. This idea of a self transcending the self revealed in consciousness has, it may be noticed in passing, the same charm as pertains to the idea of infinite possibilities in any department of knowledge. It is dull to have reached a final end in any topic ; very dull to feel that nothing new will ever reveal itself in an intimate friend's character ; most dull to have penetrated to the very bottom of one's own secret depths. And, happily, we never can be quite sure that some self-revelation is not yet in store for us.

We should therefore take as our type of a full self-consciousness not a self-revelation already complete, but that amount of self-knowledge and, still more, that capacity for it which is required to maintain intact at every point the unity of reason and right[1] instinct. We may think of sound self-knowledge as of sound knowledge in other topics : the alumnus is not he who has a vast knowledge of particulars, but he who knows enough and knows it so that he can know whatever else he wants as occasion requires. Thus regarded, self-knowledge is that kind and that degree of skill in knowledge which makes right instinct continuous with reason, and which, by making clear the opposition between this fortified reason and unlawful instinct, makes it easy to keep the latter under control. And here we see the psychological connexion between Socrates' injunction to "know thyself" and his faith in the control of conduct by reason.

Those lack sufficient self-knowledge, and have thus a settled duality of nature, who are content to go on with their instincts blindly or aided only occasionally by sidelights from reason. These sidelights from reason give the form of conscience, the instincts co-operating with them give the sanction of intuitive force, and a very effective type of conscientiousness may be thus realised when the instincts that could be recognised as principles have throughout the upper hand. This might be called the semi-conscious conscientious type.

Semi-consciousness, *i.e.*, when the total scheme of action is half understood, yields many eccentric types—persons, for instance, giving rein to de-socialising instincts, for which they invite the sanction of some crude jumble of practical ideas more or less irrelevant to the instincts in question.

[1] By right instinct is meant instinct that can be reconciled with reason as a whole.

Strangely like them are their sworn foes, in whose souls the prevalent instincts of conservation or of mastery rally desperately, but blindly, round some formula, though supporting it often enough with arguments no whit more relevant. The mark of both is combination of the form of rational conscientiousness with strange irrationality of content.

More wholesome is that much slighter degree of self-consciousness which, to all intents and purposes, is unconsciousness of instinct except as expressed. In such case there is no conscious attempt to combine reason with instinct in the guidance of life, except, indeed, to use reason for estimating the means to instinct's ends. The rationality of conduct is then only understood in this secondary sense, and for good or evil living all depends on the beneficent or maleficent balance of instinct. There is much to be said in appreciation of this type when the balance is beneficent. The sudden blaze of instinct warms more genially than the steady beam of reason, and so the unconsciousness of good instinct is lovable pre-eminently.

Nevertheless, it is in natures moved peaceably, because powerfully, by a balance of fairly reasonable instinct that we find certain characteristic and ineradicable faults resting in the main on a fine and permanent *inaccessibility to ideas.* Such inaccessibility is an obvious characteristic of those whose life is rooted mainly in an unshakeable unconsciousness. Instincts that cannot be expressed as principles cannot be dealt with as entering into the ideal of conduct and cannot therefore be in themselves modified by or incorporated with reason. And so, as we know, the silent unconscious people, whose unmeditative goodness delights the heart and whose stability of conduct gives rest to the soul, afflict us by their entire unmanageability on occasions demanding any readjustment of the instinctive current of ideas or conduct.

In fact, new ideas are naturally excluded, not intellectually of necessity, though there will be a bias of attention against them, but at least as practical—*i.e.*, influencing conduct—because in such cases no ideas as such influence conduct very much. When instinct dominates conduct the peace may be kept between instinct and reason in several ways. The most typical way for the unconscious man is not to hear "the voice of reason" as a practical voice at all. That many persons live for the most part outside reason (*i.e.*, without much attention to and action on ideas of conduct except as means to ends) is apparent from the small regard

to ethical reflexion with which popular preachers and their public are content. To a few points—not all by any means important points—the attention is directed and thereby the will attached. These appear in consciousness as conscience, and being attended to, enter as constituents into the sum total of will co-operating with or modifying the instincts according to their force. But the will takes on no mandate from reason as a whole, and for the most part the current of thought flows on quite smoothly, with very little influence on the conduct of life. This presents a spectacle as strange to the practical idealist as the practical idealist's every-day experience of motive ideas and intelligible instincts is to the unconscious and therefore non-rational soul, or rather to the unpractical reason accustomed to turn back on itself. The development of ethical thought must tend on the whole to melt down the wall of separation between instinct and reason—to produce practical idealists—but it seems quite possible to think a whole system of ethics clearly—and certainly to think little bits of moral doctrine—without being moved out of the speculative into the practical attitude. There might therefore be ready accessibility to ideas intellectually with no influence of these on life.

This defect of practicality in ideas of practical import seems to some persons quite natural, to others almost unintelligible, and so the practical and the speculative idealist may be as the poles apart in conduct. A primordial difference in character may be suggested as cause, namely, the magnitude and instinctive direction of the subjective energy. Low subjective energy is unfavourable to any surplus of voluntary energy for conduct over and above the expenditure in attention to ideas. And given considerable energy it may tend originally to divide itself in any proportion between activity in thought and in deed. One may think so hard on virtue as to be incapable of the effort it requires. Or one may waste in feeling.

Education cannot increase the store of subjective energy, though fresh air, good food, and exercise may; but education can alter the *habitual* distribution from any extreme to a satisfactory mean ratio. As Aristotle taught us long ago, virtue—each virtue—may become a habit or secondary instinct by *constant and unremitting* practice. Thus the general habit of practical reasonableness can be acquired by the *practice* of carrying out all practical ideas whatever they may be. Facilities of time and opportunity should be given to children from an early age to make easy little plans *and carry them out*, and throughout the utmost care should be

taken that ideas of beneficent action more particularly be not checked. Perhaps no department of education is more liable to neglect and perversion than this one. If the idea of reason as it develops is to be practical, then it must be lived as it comes to light.

The individual history in this way educates persons very differently. People become practical as the exigencies of life demand practicality from them, but a life monotonous, luxurious and irresponsible will leave the ratio of speculation to practice just where it congenitally was. No amount of careful education would do away with the variety thus born of diversity in the circumstances of life, but the great extremes which are full of mischief might be abolished—the man who meditates but does not act, and the man who acts but does not deliberate.

Defect of deliberativeness is the mark of an over-practical distribution of the subjective energy. In that case attention to an object of practical import dissolves at once into the instinct—it is hardly a resolve—to act. The speculative interest which prompts us to turn the matter over,—to look at it in relation to other objects, the ideas that make up our practical wisdom generally,—to orientate ourselves with respect to it and so on,—is here deficient. The agent leaps out in act; "something is to be done, therefore do it," *i.e.*, the first thing that comes into the head. Perhaps few fates are more trying than life with a very over-practical person, and no two opposites go worse in harness than over-practice and over-deliberation. They do not ameliorate, but aggravate each other. Both are curable, but two of the same sort together have a better mutual influence. The defect of deliberation in one stimulates deliberative effort in the other, and just as a hasty pair soon find out the inconvenience of hastiness, in the same way the over-deliberative pair are stimulated to compensate each other's faults.

2. *The process of self-consciousness.*

But it is high time to approach the inquiry: How is self known, and as what, in consciousness? This brings us into the very heart of our problem. What is it that I am aware of as my own self? How does this consciousness differ from one to another?

Our business here is not with the origin of the simple *unqualified* consciousness of existence as pertaining to the subject in knowledge. Our question is as to the development of self-consciousness—the *qualification* of this primordial I-ness. The distinction of self from things known emerges in consciousness as the differentiation of feeling and

knowing. We make this clear to ourselves by conceiving the pre-self-conscious stage of life as resembling brief resting moments of later years when consciousness is so vague that neither do objects nor feelings appear in it. All, or nearly all, of us have these vacant moments, and some —persons of fine bovine physique as well as persons of feeble, easily exhausted frame—have such moments very often and very long. They do not present even confused states of feeling and thought: they are states in which both being nascent neither is distinguished. From these, knowledge and feeling emerge together, and the feeling is the qualification of the subject, in which qualification it comes to consciousness as "self".

I know the objects of consciousness as related to each other, I feel them as affecting "me". Full consciousness is never without this duality, self-consciousness, an undercurrent of feeling flowing on behind the objective consciousness which is the normal field of perception and thought. My feelings, as such, I do not strictly know. I am aware of them, or rather they are "me," and I appear to myself as their series, not a disparate series, but a continuous flow, each part of which has a living, though dim, share in all other parts, these being revivable through it. My feeling at one moment—at least, in any moment of strong feeling—is an integral of my feelings in all moments of my life. Only some circumstance that operates like the waters of Lethe impairs the truth of this momentous fact. I give my mind for a moment to my present state of feeling, grave or gay, and all my life-history of feeling rushes in upon me, though the only clear evidence I can offer is in the rise to objective consciousness at such times of odd scraps belonging to various periods of my life. It may, of course, be argued that the odd scraps come up through the association of *ideas*, and awaken feelings like to those they roused before. But in the first place the rush of feeling to the past, in a moment simply characterised by strong feeling—a deepened subjectivity—follows concentration on the *feeling*, and is so miscellaneous as to preclude explanation by any other than by subjective association, *i.e.*, through feeling of self. In the second place, the odd scraps show no connexion according to the laws of association by objective similarity or contiguity. In the third place, they have one feature in common, and, so far as I can see, only one: they are connected with, and have become symbolic of, the life-events about which "*I*" have felt much—in which "*I*" have been deeply interested, feeling deeply. This is the similarity in the mis-

cellaneous group thronging the objective memory when I pause in my day's work and relapse into feeling myself. And so I argue that the link of association is subjective—that in feeling myself I feel my past of feeling, so that all the deep events of feeling recur in me. So in reflective self-consciousness, a happy moment means a happy life, and the sadness of a sad life is most of all seen in the saddened self-consciousness of old age. Thus the qualification of me to myself is my life history of feeling.

Let me give an example: misunderstanding is so easy. During two weeks of somewhat depressed health I had prudently kept myself as much as possible out of my thoughts—seeing that the self-consciousness of a person physically depressed is apt to take tone from the general depression. But one morning I became conscious of being myself again—well—when I heard the birds not only singing outside my window, but making me *feel* their song as I had not done for a week or so. Pleasure of the cheerful sounds went into me, and this deepened into the pleasure of feeling myself as a physical whole better, and with that I dropped cheerfully into a strongly self-conscious mood for a brief space. At the end of that space I was myself in the complex; a vast complex mixture of pain and pleasure was upon me, while floating dimly in imagination were the familiar oft-recurring scraps of painful and pleasant remembered scenes and events. Not least noteworthy among these and in a middle state of feeling most steady on the whole, was that kaleidoscopic group of images into which seems to be condensed all emotional life-history of a childhood, healthy, serene and abounding in hopefulness. Visual imagery is apt to be for me the expression of feeling: a stronger wave carries me on to the vocal and auditory organs. And so my symbols of childhood's feelings are first of all an outlook towards blue mountains and a beautiful wide river flowing past the meadows behind my early home, a path through the fields, and a stretch of wood between house and river, a boat-house, a big safe boat on the river, and two children—a boy and girl—in the boat with oars altogether out of proportion to their size. These images change into a thousand others belonging to the same or later dates; but I think I may safely say that myself as a permanent thing never entirely changed by many great changes coils itself round no one of its many symbols in imagination more securely than round this image of a wide river flowing between hills and woods. From all of which may be drawn the practical inference that a happy wholesome childhood

especially between ten and twelve is a good that no pains should be spared to secure.

It is undoubtedly true that while the momentary self-consciousness partakes of the series of feelings which make the life-history, this whole is greatly affected by the feeling tone of the moment. If the subjective disturbance of the immediate event is pleasant, the whole tends more to the revival of past pleasures than in the opposite case. Like revives like in the feeling of the subject as in the qualifications of the object. And so when there comes a moment of vivid inward consciousness, the life-history rises dimly as before, but so that it tends to turn out the bright or the gloomy side according to the tone due to the present moment. Good health begets and preserves cheerfulness because it is favourable to joyous present moments in which the self-conscious memory turns out its sunny side. Good endowment of eye and ear, of imagination and intellect, all tend to the contribution of pleasure more than pain, and so through momentary pleasures they colour the total subjective mood pleasantly from time to time. Ill health, imperfect senses, feeble imagination, deficient intellect, all conduce either to lower the total subjective tone or to leave it at least unraised; though not less noteworthy is it that the total colours them.

One melancholy consequence of the psychical law by which the whole series of feeling revived—the integral of feeling, as it might be called—is assimilated in tone to its last-coming constituent, is the cumulative effect of sorrow following sorrow in life. This may easily escape superficial observers, who, remembering that we can re-adjust our tastes and attention to endure contentedly most of the minor ills of life, assume hastily that even pain as such loses its quality by repetition. The fact, however, is that a new sorrow, reaching deep enough to rouse self-consciousness, rouses all the old sorrows more than the old joys, and the resultant subjective state is an integral of grief present and past. The second blow hits harder than the first. Pain cumulates in proportion to the unity and vividness of the emotional self-consciousness.

3. *Variety in degree and unity of the self as felt.*

This leads us to our question as to the varieties of character implied in the above considerations. Self-consciousness as it concerns us here reposes on the *emotional unity of the subject throughout life*. Now this emotional unity may be more or less continuous and whole. The emotions may also be more or less vivid. Here then

are two lines of characterisation which let us follow further.

With variations in the vividness of feeling from time to time we are all familiar, and we know that this does not vary simply with variations in the vividness of imagination. At one extreme is a peculiar deadness of feeling—a state in which nothing seems to matter much, as if there were no subjective reaction at all except in so far as implied for cognition in the movements of attention. In this state it is as if *we* had withdrawn out of reach of the simple pleasure stimuli, were too far off to *feel* although we know them. There is no capacity for a thrill of pleasure or a twinge of pain. We can will and think correctly, but we hardly feel.

In such case it will be found that the consciousness of self grows or has grown dim. It recedes, leaving the objective field clear and even vivid. From this field self is remote, as though it were a mere unconnected spectator of some show that might be happening anywhere, at any time, to any person. The deadness of feeling, in fact, deadens the sense of self in relation to the present moment. At the same time it may very well happen that when this state is consequent on mental shock—the common case—the consciousness of self as immersed in some part of the past should be quite vivid. The other case may happen also.

A low susceptibility to feeling may, however, exist as their normal state in particular persons, giving the effect to others of a sort of subjective horniness or encrustation, and to themselves of a dull immunity from thrill and twinge, of which occasional more vivid moments may make them conscious. The subjective reaction in them is habitually either cognitive or outwards towards the instincts in the main. They do not expend energy in mere feeling nor in its consequence, the free and playful discourse of imagination. Physiologically this may mean a brain so completely organised for definite reaction on the sensory organs and active members—a wholly and stiffly instinctive brain—so that there are no free parts, the general agitation of which gives a sounding board to the thin initial disturbance, and thus enables it to gather volume for the implication of the whole.

Certainly the person of vivid feeling realises himself as responding in some massive as well as intimate way to his experiences. They pierce him ; he goes out to them and is himself in them. " His heart goes out," as the saying is. But here comes another distinction—the response may be warm or cool, massive or thin : so far it is emotional, more or less. It may also involve or not involve, more or less, the instincts

and the imagination. It may flash out in images or not. It may blaze into and rouse or check the instincts or not. Normally it no doubt does both, but always more or less. Thus pleasure and pain tend not only to control the inner and outer life by their immediate influence as retaining and repelling the attention towards their objects, but also by the multiform force of the back wave in subjectivity which the broadened stimulus affords. Very strong feeling takes quite a perceptible time before it feels piled up to its height, and produces its further effect in consciousness. Obviously, however, there are those who feel vividly, but not so as to produce much effect on imagination or instinct. In that case we are apt to say that their feelings are not deep, but this does not really follow. The feelings may be deep enough, but they have a certain separateness or detachment. Or, rather, since the feeling self should be regarded as the central fact, we should say that the instincts and imagination have an abnormal detachment from them. The contrast is that between a whole which is differentiated and not wholly re-integrated and a whole re-integrated at every differentiation. The most perfect type would probably consist in a personality so balanced that some degree of detachability (like the power of an athlete to separate muscular actions generally conjoined) should co-exist with such a degree of unity as makes the whole consistent with itself.

Unity of composition in the emotional self-consciousness was mentioned above as a characteristic according to the degree of which persons might vary. Since the emotional self-consciousness is an integral in time, unity of composition implies that maximum wholeness from first to last of all past feeling in each full personal feeling which has been already described. George Eliot puts it thus:—

> I am thy loved Past,
> The soul that makes thee one from first to last.

To any person who approximates to this type inconsistency between past feeling and present feeling, as for instance towards persons, is very painful. The requirement that for happiness the present state of feeling shall be harmonious implies the requirement that the history of personal feeling shall be a harmonious development, the changes in which appear as slow evolution—not revolution. A revolution in feeling is in itself a heart-break to a self-consciousness with this tenacious grip upon its past. Such persons are hard to change in anything affecting the main current of

their feeling, and when sudden change is forced upon them it is like the rending of limb from limb, while a permanent change leaves a permanent gash in self-consciousness—well called a heart-break—a something that not only aches by its failure to harmonise with the present whole in each moment, but makes further a dull ache throughout the whole of that self-consciousness which it has divided into two contradictory parts. Affection turned to aversion is probably the most striking example. In the more loosely integrated self-consciousness, so commonly depicted in works of fiction, this may appear as revolution pure and simple. Love was, aversion is, the whole of self so far is changed: there is a pain attached to the remembered past, but the remedy is obvious—blot the past out, withdraw attention from it, live in the changed self to which that mistaken past becomes easily alien. So the past is not so much buried as shaken off, and feeling does not tend at all to backslide into its old attachment. This is the revolutionary temper to which breaches of feeling come easily, because there is less integration by nature and habit of past feeling with present.

Between the two extremes may be found all degrees of capacity for alienating inharmonions bits of the past, and no doubt the capacity can be in some small measure acquired. A severe personal shock is a lesson in alienation given at the point of the sword, since a full escape from pain can only be found that way. The highly conservative temper, however, may still reject the lesson, and, instead of alienated feeling, we may then have, as a *pis aller*, the withdrawal of attention from self-consciousness as a whole so far as possible. This is the method of burying a grief, and it is effected by concentration on objective concerns, till the slow modification of feeling by the growth of new interests makes self-consciousness more endurable. In such a case, reverting to our former illustration, affection does not turn to aversion simply, but to some strange inconsistent and unstable mixture, more painful than either by the very nature of its composition, and refusing to be blotted out except by the withdrawal of attention from self.

To sum up then so far, we find in the emotional self-consciousness three variant characteristics: (1) emotional susceptibility, (2) effectiveness, or influence on the whole mental movement, (3) unity of composition in itself.

4. *Self-consciousness as related to the active self.*

But self-consciousness is more than the consciousness of feeling *as such*. As the total integral of subjectivity it

includes all those feelings of agency—directed energy—which go with all our voluntary or self-conscious acts. Generically, as subjective affections these feelings of agency may be classed as feelings and are compounded equally with other feelings in the whole subjective series, over against which stands the objective series of cognition and external act. Specifically the feeling of agency is distinguished from feeling in the emotional sense by the direction in which it is felt to work, *i.e.*, towards effects in the objective rather than in the subjective series. Real states—or shall we say events? —of feeling are (at least generally) complex in character, so that the feeling which stirs up more feeling and the feeling of agency are both exemplified.

Nevertheless because of its peculiar significance the active side of the whole series claims some attention on its own account. Self-consciousness as related to the active self is the unity of the total self in its life of feeling with each feeling of agency as it arises. Hence an instinct may be said to enter into self-consciousness when it awakens feelings that enter into composition with the total of feeling, and thus draws the total into reaction in conjunction with it. The total will repel or support the instinct according as the feeling excited by the instinctive reaction is harmonious with the total or not. In the latter case the incorporation of the instinct in self-consciousness—to the eventual loss no doubt of its character as instinct—has begun.

Obviously in the development of the self-conscious series on its active side there is occasion for the appearance of much individual variety. Every impulse come to self-consciousness, and harmonious with it, tends to draw the full force of the united whole into its alliance. And, on the other hand, every new element of self-consciousness, clear or obscure, is a new feature in character capable of attempting a bias to reason, and powerful in proportion to the obscure force of impulse behind it. The significance in self-consciousness of these silent instinctive forces on which it rests is so great that some consideration of the nature of that significance pertains to our subject.

5. *General effects of the instinctive self on self-consciousness.*

The supreme imperative of instinct is that element in conscience which makes it real. The psychological "must" that proceeds from the depths of our nature and absorbs all the strivings of our activity into it affects us as—is to us while so affecting us—the ethical "ought". Nature would be outraged if this thing were not done. In impulsive natures it may be the wrong thing, but under the stress of

an all-absorbing instinct it seems right, holy, morally imperative. But in such case the impulse has towered with passionate grandeur above reason, has not been at one with the counsels of the one self in which reason and impulse cohere. A part has not only led, but it has usurped the authority of the whole. It is possible, however, to be passionately moved by an imperative instinct, in which reason inheres. We are sometimes moved swiftly to do that of which in a lifetime of reflexion we continue to approve. This happens either because the instinct is itself a profoundly rational one, like courage, or sincerity, or loyalty in affection, or because the impulsive reaction has included such a rapid intellectual survey of the whole matter as to secure that the mandate issued shall be agreeable to the mental content as a whole. One of the educated man's leading instincts is to deliberate always when called upon to act. By practice, as well as innate gift, this instinct may become extraordinarily rapid: this is none other than the quality of "presence of mind,"—a most pregnant title. "Presence of mind" is thus always co-operating instinctively with any other instinct which the occasion may call forth, and the special instinct leaps to its end with the mandate of consciousness in the full sense behind it.

But the deliberative instinct may not have developed into the perfection of presence of mind; and in that case it retards all instinct, and may even enfeeble the will when the reason itself is dialectically feeble. The most vivid moments of life are doubtless those in which consciousness roused to its utmost limits by some passionate outburst of instinct backs the instinct with unanimous acclaim. But these moments are not given to all, and those who have had them will know of other moments when the eager call for light brought no light in response.

It has already been shown how self-consciousness operates for the resolution of the conflict between reason and instinct, and of that between opposing instincts. It may be thought that the habit of deliberativeness is favourable to this procedure, but reflexion on a course of conduct after it has occurred is no doubt the ordinary means of self-revelation. Indeed the person whose instincts are so integrated with his reason as never to give way to unwarranted instinct has not such good opportunities for observing the details of his nature as another would have who acting frequently on pure instinct learns to see, as it were, the parts of himself in his acts. The one moves reason—controlled through life,

his eyes turned away from the springs of passion that move him. The other learns to see *himself* in every errant act if only he take pains to look at his motives afterwards. He sees himself as jealous, mean, cruel, selfish, cowardly, affectionate, true, faithful, sympathetic, hospitable, brave. No doubt the Pharisee and the Publican were extremes of these two types, and it is easy to see that the after-reflexions of the Publican might be the more conducive to improvement for the future. Lack of self-knowledge is the characteristic psychological defect of the "righteous who need no repentance," and the Pharisee of the parable so rightly abhorred is the man who, in defect of self-knowledge, reflects upon and approves himself. The feeling that proved liability to error makes a man more human is justified by the fact that it makes him *more conscious* of the limits in his own nature. A man is not more human because he is more faulty but because he is more conscious of the disintegrating forces in his own soul. The best type is that of the man who by their pressure learns to know these forces but is able to maintain his whole as conscience against them.

It should be noticed, however, that the knowledge of error may carry the consequence of an attempt to justify it—not by reason but by reasons. Or even without this attempt at sophistication, the man, having erred, may harden himself in his error in defiance of reason and his better instincts. A child, on provocation, has broken his instinct or habit of truthfulness. In the first place, a lie henceforth looks more possible to him than it did before; the effect of a single breach of habit is enormous. This is the beginning of that process of "hardening the heart," the antidote to which is the repentance that renews the broken habit and looks back on the breach with shame and horror. More serious still than the simple "hardening of the heart" is the sophistication of the reason, by which the authority of the broken habit is explained away. Educated minds seldom "harden the heart" without some attempt to "sophisticate the reason". Indeed they are perhaps more apt than the uneducated to take their errors thus impenitently, because they cling more to the ideal of acting under reason. This is *self*-righteousness without the righteousness.

As another illustration it may be noted that the biographers of great men often do them serious injustice by a similar sophisticated gloss of their errors, by which the reader is given the unfair impression that they themselves were self-righteous in wrong-doing. The true defence of a great

man's memory is to show—not that he sinned on system, but that all his errors brought the amendment of shame and remorse. Thus the admirers of Goethe seek to defend him by minimising the significance of his ill-faith to Frederika, though his truer defence lies ready to hand in the bitter self-reproaches which he did not spare.

The righteous man, however, the vigilance of whose "presence of mind" preserves from error, may yet have much occasion to learn himself, especially if there be some complexity in the circumstances of his life. Borne forward on the wave of some strong impulse, he will see, afterwards at least, that although reason consented, the deed being fairly rational, it was not all reason or his judgment of right. And thus reflecting there will be revealed to him deeply rooted attachments, invincible defensive instincts, pivoting his will. The more clear the revelation the more surely will he know that these are the warp in the web of conscience, without which the judgments of reason would fall idly apart like the separate though orderly threads of the woof. The work of self-consciousness is to express these beneficent instincts as principles and to weave them into the system of the developed conscience ruling life.

Moreover, he will find in himself instincts also of another temper, though the self-controlled man will never to the full become aware of the possibilities of evil in himself. Nor is there value in the sort of scrutiny which searches for these roots of evil when they do not put forth stem and leaf. Liability to the instincts out of which error arises, is not error—is not even character—when the error does not come near to occurrence.

Yet in the current of such liability one human nature may differ not a little from another. Such differences will, I think, appear chiefly in our social rather than in our self-consciousness, in our sympathies, antipathies, tolerances and intolerances. We sympathise with that which we *might* be or do as well as with that which we consciously are. Instincts in ourselves of which we are unconscious, having never given them play, will make us sympathise with others manifesting them. But this is only within certain limits. As I have on another occasion tried to show, the obscure instincts which we stifle most mercilessly come so far to the surface in us when others manifest them as to make us understand and shrink in abhorrence from those others. Thus beyond certain limits acceptable to conscience obscure instincts cause us to be antipathetic to their like. Simple intolerance of others I would distinguish from antipathy as an effect

produced by the character in another which stifles or makes impossible the exercise of some instinct in ourselves. The aversion which a person of constant mind has for fickleness is of this kind, and this may be quite unconscious of its cause. Egoists, since their instincts exclude each other, are mutually intolerant as well as antipathetic. Rivals hate each other in this double way.

Thus, not to dwell on this subject at too great length in this place, we may read much of our unconscious nature in our social consciousness. But this needs much discrimination. Moreover, I warn myself that I am passing beyond the bounds of the subject.

The readings of self in the movements of instinct controlling conduct may be compared with similar readings relative to the movements of attention controlling thought. The variety of intellectual interest may be compared with the variety of moral instinct. And interest like instinct may be unconscious and remain so long. We may fail to become conscious of a special interest or intellectual bias either because circumstances furnish no opportunity for its exercise, or because, though it acts, it is always merged in some larger scheme of interest which it subserves, and from which it is not distinguished. For example, the interest in the concrete of sensuous details is merged by one in his talent as a realistic painter, while in another it is part of his equipment for the study of the natural sciences. Without this interest either of these two persons would miss his characteristic mark; but the leading part it takes is probably not part of self-consciousness in the one case or in the other. It will probably come to light in consequence of definite introspective activity, supported it may be by the remarks of other persons. Whether any particular person is interested enough in himself as an object of knowledge to follow up such lines of reflexion is in itself a question. This kind of self-consciousness depends specially on having this kind of psychologic interest. Just as some care to study the anatomy of beetles and the physiology of plants, so others find supreme interest in the analysis of the mental conditions revealed in a consciousness of self.

Self-consciousness at this point shows to the man his springs of observation and thought—springs inclining him this way or that in the apprehension of truth, though free from the bias of moral instincts. These latter also colour our knowledge of the world, but more grossly, so that the skilled intellect can detect and eliminate the bias given. The bias of our special intellectual interests however, the excessive

taste for sensuous detail, the quick eye for mathematical form, to say nothing of the minor special interests which make one musical person look first for fulness and variety of tone, while another searches and seizes on rhythmical movement—these instincts of intellect are not detected subjectively by general skill of intellect but by skill introspectively; and this is more rare. Objectively they are detected, where work of any importance is done, by the peculiar quality of the work. A great man who has expressed himself much is above all things intelligible from this point of view. It does not take much skill, for instance, to characterise a Goethe intellectually by the extraordinary interest in the concrete which shows not more in the quality of his proper work than in his natural science tastes, his aversion to mathematics, and his ineffective attempts to acquire skill in painting. But Goethe in all probability never so characterised himself, and if he did we may be sure that his judgment of himself was no whit less objective than is ours. We cannot suppose that he ever saw into his own characteristic group of intellectual interest with anything like the psychologic insight with which he saw his moral self. In truth, nothing is more obscure to most of us than this intellectual self. We find it peculiarly difficult to feel what we are, because it is so peculiarly difficult to get any feeling of what it is to be what we are not in the sphere of intellect. The brave man can get a very good inkling of how the coward feels, and thus he gets to feel his own characteristic instinct more clearly. But how shall a mind deficient in pure literary interest get any touch of the scholar's passionate joy in words, and how shall one whose interest is absorbed in the presentation of sensuous detail have a feeling of the geometrician's delight in the discovery of curves,[1] not as beautiful, not even as explaining natural forms, but *per se?*

The explanation of this obscurity would seem to be that the intellectual self has a lower degree of consciousness (I do not here mean self-consciousness) than the moral self, because less feeling goes with its activity and self notes itself in feeling. Much intellectul life is hardly *felt* at all, and this tends to obscurity. The robust feelings that go with the moral life lend themselves readily to imaginative construction, by which we get notions of persons unlike ourselves, and notions of an ideal or standard person. But few persons could

[1] A curve, mathematically, is not anything one chooses to draw, but is what it is because it follows some law known or unknown.

grasp the emotional experience of the intellectual processes adequately enough for similar construction. Let any one try to get hold of his musical instincts—supposed fairly good—with a view to building up a feeling of how Beethoven's mind felt when he worked, and if he succeeds in this exercise of imagination, let him further get to see just how it is that he is not a composer like Beethoven. If he succeeds in these two exercises he will have gained self-consciousness of his musical instincts. The opposite process—a much easier one—I have tried on myself in process of studying the practical problem to teach very unmusical children to sing a scale. One could not begin to study the problem upwards without an itch for musical composition in some degree. An itch for writing poetry is common enough, but how difficult it is for any of us to explain just how it is that we are not great poets. We can learn to see the defects of what we write, but we cannot find what is wanting in ourselves, because we cannot imagine the poet's mind with anything like the clearness which belongs to the common man's vision of the high-souled hero. And yet there is this in common between the two attempts—by study of the poet in his poetry we get drawn into intellectual sympathy with him, just as the contemplation of the hero creates understanding through sympathy in meaner souls.

On the whole it may be said that although self-consciousness may by close reflexion be made to embrace the intellectual self, it does not do so naturally except in persons specially marked by the introspective interest. Nevertheless the intellectual self should be regarded as a part, although an obscure part, of the object self which is better known to us in the instincts and emotions of the moral sphere.

The obscure instincts of the intellectual self, working as reason and as imagination on the total of consciousness, cannot but play an effective part to give individual shape and colour to the consciousness of self, and thus to affect further the development of character.

VI.—DISCUSSIONS.

ETHICS FROM A PURELY PRACTICAL STANDPOINT.

I HAVE read Mrs. Bain's interesting article on the above title in the July number of MIND. As she refers to some of my statements in illustration of the unpractical character of Neo-Kantian or Idealistic Ethics perhaps I may be permitted one or two words of explanation. It seems a pity that Utilitarians like Mrs. Bain should unwittingly misrepresent the Idealistic view. With all due allowance for the alleged obscurity of the writers who support it I cannot help thinking that if the opponents of that view had taken half as much trouble to understand it as its champions have taken to understand Utilitarianism this would not have been so. It seems especially a pity in a discussion of this kind, which is nothing if not serious, to insinuate any want of sincerity on either side. I do not know for instance why it should be hinted as it seems to be on p. 334 that Mr. Spencer is superior to Idealistic writers in not "pandering to received views". I should have thought that a theory such as that of the Neo-Kantians, expressly disowning as it does all appeal to merely selfish interests, is much more opposed to the frankly egoistic basis of much of the popular and even religious teaching of the present time than Mr. Spencer's, which is at best a compromise between egoism and altruism. Passing over this and speaking for myself alone, I shall state the issue raised by Mrs. Bain as it presents itself to me, and my reason for suspecting the claims of current Hedonism to be a good working theory in ordinary practice.

Both Idealists and Utilitarians appeal to consequences as a test of conduct. It seems odd that Mrs. Bain should speak throughout as though the appeal to consequences were a monopoly of Utilitarians. Idealists have always emphasised the point that conduct takes effect in a world of concrete interests, and that its value must be tested by its tendency to further the supreme interest of human life, whatever that may be. They differ from Utilitarians in their way of conceiving of this supreme interest. Utilitarians say it is the greatest amount of pleasure; Idealists say it is the development of a system of activities which depend for their value not on the amount of agreeable consciousness with which they are accompanied, but on their harmony with an ideal of human life. It is

well to state these theories in terms of "pleasure" and "system" respectively, and to avoid such question-begging terms as "happiness," "well-being" and "welfare" which are used by both indifferently. Mrs. Bain is apparently unaware of this ambiguity and uses "well-being" as though it were clearly synonymous with greatest pleasure.

The question that Mrs. Bain proposes is, Which of these theories is the more effective, first as a guide, second as a motive, to desirable conduct?

To the Utilitarian the interest of her paper will consist not as she seems to suppose in the originality of her question but in the heresy of her answer. J. S. Mill as everybody knows was led by his personal experience to maintain that from the point of view of individual happiness it was not desirable to cultivate the habit of considering conduct from the hedonistic point of view. The best practical results were in his opinion to be obtained by avoiding the use of the pleasure calculus, and pursuing objective interests as though they had a value on their own account. Mr. Spencer may be said to have extended this "paradox of Hedonism" to the sphere of politics and an altruistic conduct in general. He tries to show that here also the best results are obtained by setting before ourselves and others not the production of happiness as the immediate object, but the maintenance of the conditions of life. Professor Sidgwick to this extent agrees with both that he is never tired of emphasising the difficulties that beset the attempt to form a direct estimate of pleasures and pains, and the undesirability of relying on a purely utilitarian morality. Undeterred by these authorities Mrs. Bain proposes to revert to the claim of primitive Utilitarianism that "greatest pleasure" is not only an accurate guide but an effective motive to desirable conduct.

Leaving Utilitarians to settle this difference among themselves, the critic of Utilitarianism will find in Mrs. Bain's contention a welcome simplification of the issue. In discussing the practical difficulties of the theory as a guide to conduct and a basis of appeal he has hitherto felt himself handicapped by the admissions of its own supporters. Whatever he said on the difficulties of striking a balance of pains and pleasures the Utilitarian himself was always prepared to go one better in the same direction. And when he pointed to the ineffectiveness of the appeal to self-interest or others' happiness, he was met by the rejoinder that Utilitarians don't appeal to them. But here he will feel is a plain issue. Is the theory as unworkable in practice as he holds it to be untenable in theory? To further simplify the question we may here leave out all reference to the difficulties that beset the attempt to estimate hedonic consequences with any degree of accuracy. I doubt very much whether any one who has realised the force of the considerations put forward by Professor Sidgwick and others will find in the few sentences Mrs. Bain devotes to this subject an adequate reply to them.

Confining myself to the question of "effectiveness" I shall state as shortly as I can the objections which seem to me decisive against Mrs. Bain's contention.

1. This theory sets the pleasure of the individual in competition with general well-being. To lose sight of his own greatest happiness (granting that it is possible at all) is as immoral as to lose sight of the greatest happiness of others. He seems even to be bound to give it prior consideration: "We must work," says Mrs. Bain, following Mr. Spencer, "first for ourselves then for others". Yet short of the millennium Mr. Spencer foreshadows, when the lion of egoism will lie down with the lamb of altruism, what guarantee have we that these two will coincide? In the conduct demanded by the higher morality of any time with which we are likely to have any practical acquaintance, are they not almost certain at one point or another to collide? And in these circumstances with what degree of effectiveness can appeal be made to the waverer? The reader may judge for himself of the power of an appeal to altruistic conduct which on the pain of insincerity and hypocrisy must be crossed by a reminder of the danger which threatens individual happiness.

2. It is only stating the same objection from another point of view to note that Hedonism sets the lower instincts in competition with the higher. In all estimates the pleasure that comes from following the lower must by the consistent hedonist be set against that which comes from the higher. And it is inevitable in the present stage of human development that to the great mass of mankind the latter should seem distant, problematic and insipid in comparison with the former.

These points are of course only the practical side of the theoretical objections that have been urged from all time against Hedonism. It has frequently been pointed out that the task of proving that the happiness of the individual and the happiness of society as estimated in terms of pleasure necessarily coincide is a hopeless one. It is in Ethics, as Mr. Leslie Stephen says, what the attempt to square the circle is in Mathematics. Similarly from the side of the individual and his instincts it is of course impossible to show in every case that to follow the higher will produce greater pleasure. It was to meet this difficulty that Mill introduced his celebrated distinction of quality in pleasures. "This conduct," he would say, "cannot be shown to produce more pleasure than that, but it is higher." We all know the passage in *Utilitarianism*. It is magnificent, but it is not Hedonism.

Whatever difficulties stand in the way of the attempt to make Idealism edifying, and of course they are legion, as any one who has ever made the rash attempt is likely to have discovered, it at any rate escapes those that I have pointed out as fatal to Hedonism. In the first place it proposes a definition of social good which reconciles instead of merely compromising between the claims of self and others. And in the second place it takes individual well-being to

consist not in a succession of agreeable feelings valued in proportion to their total amount irrespective of their source but in a certain quality of life. These contentions justify the moralist in appealing on the one hand to a larger or social self against the narrower and unsocial, and on the other hand to a higher life as against a lower. If asked to define what he means by the social self and the higher life the Idealist will have his work cut out for him. If the answer he elaborates is a little vague who can blame him? Aristotle warns us against expecting the same kind of exactitude in Ethics as we have in Mathematics. So does Mrs. Bain. And if there is any part of Ethics in which want of accuracy is more excusable than in another it is in sketching the outlines of the moral ideal. But all this only means that the acquirements of an ethical priesthood (in the necessity of which it is interesting to notice that Mrs. Bain along with Mr. Spencer and the Positivists believes) must go deeper than a mere familiarity with the formulæ of primitive Utilitarianism and a turn for the arithmetic of pleasure. They must include among other things at least some sympathy with the best ideals of human character and some insight into the general trend of social progress.

J. H. Muirhead.

VII.—CRITICAL NOTICES.

Esprits Logiques et Esprits Faux. Par Fr. Paulhan. Paris: Félix Alcan, 1896. Pp. 362.

Notwithstanding the express statement of its author, many of those who read his new work will be apt to regard it as a sequel to *Les Caractères*, dealing like it with a problem of comparative rather than of general psychology, or, as M. Paulhan would express it, with applied and concrete psychology. "The mental elements and the laws of mental activity," he tells us in *Les Caractères*, are still the object of his research, "but instead of considering them in themselves, as I have done in a preceding volume, I study here the different types which the different concrete manifestations of these general laws produce".[1] Similarly in the present work, we follow out the concrete manifestations of these laws in intellectual processes with the result that we have presented a classification of the different intellectual types of men. In this respect the two works correspond in method and results. But it is one of the noteworthy features of his method that we can with equal justness regard his work from two points of view. The different types of the abstracted intellect as of the character as a whole may either be regarded as stages in a general mental development, or as crystallising themselves in types of men. It is the former point of view which the author emphasises in the introduction to the present work.[2]

What then are these laws of mental activity? "The law which dominates the whole life of the mind is the law of systematic association which expresses the aptitude of each element, desire, idea or image to excite other elements which are capable of associating with it for a common end."[3] It has its complement in "the law of systematic inhibition" which expresses the tendency of the mental element to exclude all elements which cannot further the common end. The degree in which systematic association is developed is, other things equal, the degree of mental evolution; and hence all the types may be regarded as stages in this general development or as typifying classes of men in whom

[1] *Les Caractères*, p. 13. [2] *Esprits Logiques*, p. 35.
[3] *Les Caractères*, p. 12.

they have been arrested. To complete in outline M. Paulhan's leading psychological conceptions, as presented in his previous works, we must observe that he distinguishes three other laws of association, the laws of contrast, resemblance and contiguity; and that when the tendencies which these laws express are not held in check and subordinated to systematic association, the decay of character or of intellect is presented in the degree in which these tendencies have regained their independence. Thus we watch the gradual dissolution of systematic association: in the character, the tendencies are no longer connected by reference to any single end or by the harmonious co-operation of several; in the intellect, the ideas are not logically connected, but controlled by loose analogies and irrelevant conjunctions in space and time.

It would take us too far from our immediate object to criticise our author's conception of association and of its subdivision into these five laws: but whether we hold that they are the diverse expression of one or two fundamental principles, I think the reader will agree that M. Paulhan is justified for his purpose in emphasising their distinctions. It is obvious that the idea of an end is not present in all mental states, and that, even when it is present, it may not be sufficiently strong to control the stream of events. It may suggest some other idea which has only a superficial resemblance with itself, or one which was formerly contiguous with it in the spatial or temporal order, or one which is the contrast of itself; and these ideas of superficial resemblance, marked contrast, or of the irrelevant context, may in no way further the end which the first idea had in view. The first idea has failed to suggest only those ideas which are of service to its end, to exclude all those which are irrelevant or hostile; and instead of the coherent series of systematised thought, we have the incoherent series of ordinary thought. Systematic association—we might call it teleological association—is one of the forms which evolution as growth of organisation assumes in the subjective field of psychology: and we have fresh evidence of the wonderful fertility of this conception in the new light which M. Paulhan has shown it throws on character when taken as the principle for classifying various types.

M. Paulhan's work falls into two parts. While the second attempts to classify the types of intellect according to their degree of organisation, the first considers how the intellect is gradually freed from subservience to the desires and sentiments and organised as an independent system. The stages of this development also, according to our author, assume typical forms characteristic of classes of men. They present three main types. The first is the "undifferentiated intellect". All our desires and conscious tendencies require a certain amount of thought, in order that they may attain their ends. Here thought is wholly subordinate, a mere means, not an end in itself. Describing people of this type M. Paulhan observes that their ideas and images do not form distinct groups, "they are not disengaged from tendencies, they

are always mixed with the phenomena of feeling, they are grouped about a sentiment rather than about an idea".[1] The second is a type of transition; in it, thought becomes detached from tendencies and organised apart, but only to serve them the more effectively. "We do not yet see the mind create a new tendency whose centre should be the intellect itself, whose end should be the development of the intellect. So far the intellect in some sort passes out of the character only to return to it, and in order to be of service to it organises itself outside."[2] In the third type the intellect is constituted as independent of the sentiments; it becomes an end in itself.

We are all familiar with the love of knowledge for itself; and if it is rare unmingled with other sentiments, it is common enough blended with the love of fame or wealth. If this is what M. Paulhan means by his third type, we have a clear conception of it, but I do not think this is his meaning. If it were, the problem of this book would have assumed a different form. Instead of asking how the intellect comes to detach itself from desire and sentiment, he would have asked how a new sentiment comes to be formed with its dependent desires—the love of knowledge for itself: or more precisely—since a sentiment so abstract as this is rare and must await the formation of its own species—how the love of any species of knowledge has arisen. He would not have anticipated that, when thought has formed itself into a relatively coherent system, this system of thought would be any more separate from feeling (*phénomènes affectifs*) than in its former wholly subordinate state. The popular mode of regarding the relation between the intellect and the sentiments seems to have had an unfortunate influence on his thought. We are accustomed to their antithesis. We think of the one as so cold that in its higher developments it seems to have wholly separated itself from the sentiments and emotions. Of a certainty, the intellect can only work disinterestedly and with due self-control when intense emotions are absent. But the strength of a feeling is not to be measured by its intensity alone, and many of our most persistent feelings are the calmest. Between the lowering of the intensity of feeling in a system of thought and its total disappearance from that system, there is all the difference. How would the different systems of our thought have ever developed unless they had been supported by feeling? how can they continue to grow except by its persistence? We know what happens to a man when he has lost interest in his work: the system of his thought ceases to grow; it languishes; the sequence of his ideas is less coherent; his attention cannot be maintained. And yet the "feeling-tone" of his thought may seldom have been sufficiently intense to have obtruded itself. But when the love of work has left him, he is quick to discern its absence.

[1] *Esprits Logiques*, p. 40. [2] *Ibid.*, p. 66.

Yet after considering in the first two chapters how thought grows into a system relatively independent of desires and tendencies, in the third chapter the author seems to recognise that expressed in this way the problem is insoluble. He remarks that when we create this opposition between the intellect and the sentiments we do not always notice that the intellect becomes "the object of an eager passion," and that "the intellectual desires are altogether comparable to the desires of feeling (*désirs affectifs*)".[1] And this emphasises the criticism which I have ventured to make that the real question we have to ask is how this new intellectual passion with its attendant desires is developed, not the meaningless question how the intellect comes to separate itself from desires and tendencies. For after this sentiment or passion is formed, whatever other sentiments and desires still subsist in a man do not the less require the mediation of thought to attain their ends, and even for their very constitution. Desire with the thought abstracted from it would not be desire, but a blind impulse; sentiment would not be the love of anything without a thought of the thing. But when the new sentiment is formed, thought, while remaining as subservient to other sentiments and desires as before, also and in addition is systematised within this new sentiment. Here it is not subservient to the wants of the organism and to practical interests; it is an end in itself. The reflective love of thought for itself is not indeed felt for its states of doubt and ignorance, but for their inherent tendency to develop into knowledge. It is the love of thought for true thought's sake. But how this reflective sentiment is developed the author does not inform us, though he expends much ingenuity in explaining how thought becomes detached from its original tendencies.

Is there any difficulty about this double attitude of thought? Do we suppose that when it enters the new sentiment it must, like an object that changes its places, leave the others vacant? Obviously we are not concerned with the numerical identity of thought but with its qualitative identity. The same thought in this sense may belong to different systems, and attach to different sentiments, and while in most it is subordinated to their practical ends, in some one it becomes pure and disinterested. And as the intellectual life develops this one sentiment tends to become the dominant one, and to subordinate others to its overmastering end; so that the thought which they dispense is no longer merely subordinate to their ends, but, like these ends themselves, is regulated by the supreme sentiment. In the ideal development of this type, which, as M. Paulhan remarks, like all pure types is non-existent, the entire thought of the mind is subordinated only to the end of advancement in knowledge.

But how is it that in a system of thought the ideas which it employs do not excite the desires with which they were formerly connected?[2] The thought of food does not excite hunger when

[1] *Esprits Logiques*, p. 79. [2] P. 47.

the appetite is appeased, nor after a good night's rest does the idea of bed suggest the desire of sleep. If we reflected on the uses of various food-stuffs when we suffered from the pangs of hunger it is probable that we should not disengage our ideas from the animal want. But we select such times for thought when we are not pressed by other desires; and in proportion to the strength of the love of knowledge, we are able to exclude feelings which deflect the train of thought from its prescribed course.

Three types have become distinct from our analysis corresponding to three stages in the development of thought. In the first thought is entirely dependent on desires and sentiments other than the love of knowledge. In the second this new sentiment is formed, but it exists alongside of others, and with some it blends, like the love of power or reputation. Its end suffers; sometimes a compromise must be accepted, sometimes it must yield to a more imperious sentiment. In the third and ideal type the love of knowledge is predominant, and all other sentiments and impulses are subordinated to its end and systematised within its sentiment.

But our second type does not correspond with the second of M. Paulhan, and it is not easy to get any clear conception of what this is. People of this type, he remarks, are distinguished from the first by their capacity for reflexion, and from the third because in them "theory is only the indispensable prelude to practice".[1] Their "intellect is still under the direct control of desire".[2] But this, as we have seen, is no ground of distinction, since the highest type is under the control of the desires of its sentiment. And if such people have a greater aptitude for reflexion, they still belong to the first type, if all their thought is a means and not an end. We can, then, only class them as a subordinate variety of this type, and M. Paulhan's third type will correspond with our second.

He groups under it three sub-types. The first are "the intellectual people of intense sensibility (*sensitifs passionnés*)". The second are those who live by sentiment and also by thought, but keep each distinct. The third are those who are purely intellectual, in whom thought predominates.[3] The examples he gives of the first sub-type are taken from musicians, artists, and literary men. Many of them possess intense emotional sensibility; but their emotions are subordinated to their artistic ideal. The artist is indeed a variety of this type, for he too loves truth and pursues it; but he combines with this end the conscious pursuit of beauty. It is not sufficient for him, as for the scientist, that his thought be true, it must have that literary distinction, that high quality of beauty, which makes it a work of art. But this important type is not that which M. Paulhan constructs; he is emphasising only the intensity of the emotions of many artists and of a few thinkers.

[1] P. 72. [2] P. 62. [3] P. 78.

In the second sub-type "the intellect separated from the sentiments is isolated and lives as an independent system"; but it does not exhaust the character.[1] I can only interpret this type in correcting M. Paulhan's expression of it. The intellectual life is never separated from sentiment, but the love of knowledge on which it is based may be isolated from other sentiments. Even this degree of separation is extremely doubtful. Are the love of power, of fame, of being of service to one's fellow-men, dead? for if not of a certainty they will often blend with this sentiment whose object is so largely identical with theirs. M. Paulhan remarks that this is a type of scientists and philosophers rather than of literary men; for the separation of the intellect from the sentiments is "a guarantee of clearness and impartiality" and serves the aim of the thinker, but is unfavourable to the artist.[2] As an example of this type he takes J. S. Mill, in whom the emotional and intellectual life, he thinks, were separated. It is in these psychological portraits that our author excels, and to those of Darwin and Flaubert in former volumes, he has now added this fine and appreciative study of Mill.

Under the third sub-type M. Paulhan classes all those who are the purest incarnation of the intellectual life. They have hardly any other end than thought.[3] The ideal type which defines their place in the series of sub-types is that which I have taken as the third and highest in the intellectual development; and an existing if limited class of men approximate to it. They are most often found among abstract thinkers. The literary man is apt to grow too fond of his creations; and "Dumas loved Porthos as a friend and wept at his death".[4]

The reader will perhaps conclude that this third and highest type of the intellectual development contains only men of great intellect. But our author warns him against this conclusion. He even goes so far as to assert that it contains "many mediocrities and a few imbeciles".[5] A man may belong to this type because he is incapable of feeling any strong passion, not because he possesses remarkable talent. Others are carried away by an idea; they cannot stop to criticise it; it masters them; but if good, the poverty of their minds hinders any rich development of it. And the author sardonically remarks: "In seeing people who would have made passable clerks or tolerable administrators in a subordinate position devote themselves to intellectual researches for their whole life . . . we realise the power of the idea, . . . how it may become a dominant tendency".[6]

In the second book, to which we now proceed, the author deals with the various types of the logical intellect, and afterwards, in contrast, those which are sophistical and false. The principle which controls the classification is the degree of organisation of

[1] P. 92. [2] P. 98. [3] P. 99. [4] P. 102.
[5] P. 117. [6] *Ibid.*

thought,—the degree of "systematic association". The highest in the scale are the balanced intellects (*les équilibrés*); and through the dissolution of the systems of thought, through the increase of disconnected ideas, the author attempts to explain the types of illogical minds.

But what is the connexion between the two books; what is the relation of the classification proposed in the one to the classification proposed in the other? M. Paulhan has not discussed this question; and I think it is one that will perplex the reader. The two classifications cross one another. Thus the highest in the second may be the lowest in the first. The balanced minds (*les équilibrés*) are often found among common-place people. "Every one has known good folk who acquit themselves suitably of their various social functions: their business, their family duties, and who in the discharge of these functions discover healthy ideas and sound reasoning." [1] But these are not they who lead an intellectual life and make knowledge an end in itself. Their ideas are wholly subordinate to organic wants or practical ends. While they belong to the highest class in the second scheme they belong to the lowest in the first. What relation, too, do the incoherent and illogical minds bear to the types of the first classification?

The fundamental ideas which underlie M. Paulhan's theories do not seem to me to be sufficiently analysed, and as a result are sometimes vague and unsteady. I do not mean the metaphysical ideas on which all thought reposes, but those which are properly psychological, as, for instance, the relation of thought to the desires and sentiments, which is the subject of the first book. Much of the value of this book is lost for want of a clear and steady recognition of the fact that the intellect is never separated from desire and sentiment; and the conception of systematic association, which seemed clear in the earlier work on character, here, in its application to the intellect apart, becomes ambiguous. We shall return to this point later and need not dwell upon it. It is when our author comes to detail, when he deals with types which he has evidently known, and which are not constructed to fill a vacant place in the series, it is here that he shows a remarkable talent. His analysis becomes finer as it approaches the concrete. Where he studies the subordinate varieties of a type, he shows a delicate appreciation of their differences and a fine insight into their psychological explanation. All this part of his work appears to me admirable; and it is this combination of a fine analysis in the concrete with insufficient analysis of fundamental conceptions that seems to me the distinctive character of his work. The first chapter of this book, which is one of the very best, is an example in point. He distinguishes four leading types, each conspicuous for the high degree of its coherence through systematic association, but each exhibiting

[1] P. 136.

it in a less degree than its forerunner. They are: (1) the balanced minds (*les équilibrés*); (2) the thinkers and logicians; (3) those who push their ideas to an extreme (*les outranciers*); (4) the specialists. The harmony of the first is due to "the spontaneous play of the mind".[1] Their logic is, in a way, "innate, natural and instinctive,"[2] in this distinguishing them from the organisation of the thinkers and logicians, which is "voluntary and maintained by principle".[3] People of various degrees of intelligence belong to this type. But while we find many mediocrities, only a few of the great geniuses are examples, Leonardo and Raphael but not Shakespeare. Lesser men of this type who may have distinguished themselves in literature or painting without the gift of original genius, "vulgarise" the work of the great men. They do not seize upon some characteristic of the master and push it to an extreme like the *outranciers:* they are too well balanced for that.[4] Some of them "attain to glory by the perfection with which they represent the average opinion and the average taste".[5] In science their work has higher value. To popularise a work need not take away its scientific character, but it destroys its value as a work of art. Such men are able to make improvements in detail, and qualities of *technique* are not beyond their reach. But in philosophy as in art "to popularise is almost to destroy".[6] The great geniuses who belong to this type are they in whom "all is harmony, work and life, thought and imagery".[7]

Now it is most important to understand in what this balance or harmony consists which is put forward as the highest achievement of systematic association. I conclude that it means sometimes the perfection of the logic, the absence of contradictions. Thus of the opposite and illogical types M. Paulhan says: "The mind affirms and denies at once, that is the common source of illogical thought".[8] But this kind of harmony is not characteristic of the great artist and leaves unnoticed the distinctive harmony of æsthetic effect. Again, in what does the balanced mind of the good citizen consist who is quite common-place and yet exhibits good sense; and wherein is it superior to the thinker's? Surely not in greater absence of contradiction or in greater coherence of thought! The ordinary man may not indeed be conscious of his contradictions, because he has never brought together his opinions. They are disconnected: how then can he belong to the highest type of systematic association? But we can discern what is meant by the balance and harmony of his mind. He is a good man who fulfils his "family duties," etc., and his desires, I suppose, are not at strife. But this is the balance of his character, and the author in this work is concerned with the intellect in abstraction. The harmony of the good citizen's thought is due to different causes. His ideas are not at strife because his sentiments are

[1] P. 135. [2] *Ibid.* [3] P. 143. [4] P. 138.
[5] *Ibid.* [6] P. 140. [7] *Ibid.* [8] P. 253.

harmonious. His sentiments allow fair play to one another and do not attempt to restrain each other's legitimate activity. In the second place, his thought is not in conflict, because he is unconscious of its implicit contradictions. But this kind of harmony is not due to the presence of systematic association, but to the degree in which it is absent. And if we consider this first and highest type in our author's classification as a whole, we shall see that it bears something of this character, the unconsciousness of contradiction rather than its absence, and therefore the absence of strife among its ideas. For its logic is instinctive; it reaches its conclusions by no conscious method; and if among a few men of genius, these conclusions, were they subjected to the analysis of logicians, would be judged to be relatively coherent, their case would be exceptional. Surely those whose thought is the most coherent are the great thinkers whose relative consistency is the result of deliberate purpose. But their highly systematised thought often attains consistency at the cost of sacrificing some aspect of the world. They have lost balance in attaining to consistency. This is another meaning of the balanced mind which it is difficult to explain by systematic association. The *outranciers* and the specialists, M. Paulhan remarks, exhibit this loss of balance in a greater degree, and wide realms of fact remain uninterpreted by their too narrow systems. That mind will be better balanced which rests on a broader and more complex basis of fact, and balance, in this sense, will depend, not on systematic association, but on the wealth of experience and the richness of the mind itself. For the mind will be better balanced the more many-sided it is, because of the greater variety of experience which it can assimilate. Now the ideal philosopher is one who forms not merely a harmonious system of thought, but whose system is so many-sided and complex that it is adapted to the complexity of the world. In him the most perfect balance of thought is united with perfect coherence and consistency. But often the systematic association which effects the coherence will effect it by the sacrifice of balance: and often the balance will be effected by the relative absence or restriction of systematic association. The degree of balance will not then always coincide with the degree of systematic association; and so far as this is the case the highest of M. Paulhan's types will fall outside the principle by which he attempts to classify them.

Let us now bring together the different meanings which we have come to distinguish in the ambiguous term "harmony," as applied to the balanced type. (1) There is the harmony which means the absence of explicit contradiction. A man's inconsistent opinions do not conflict because they are not brought together. Their harmony is due to the relative inefficiency of systematic association, not to the degree of its perfection. (2) There is the harmony which means the relative absence of implicit contradictions. The "instinctive" logic of M. Paulhan's highest type may be so

sound that a critic who is at the pains to compare its opinions may find them in a high degree coherent. But the man himself, who represents the type of instinctive logic, has never systematised them or judged how far they are coherent. As there are contradictions in our thought of which we remain unconscious so are there consistencies. And the resulting harmony or absence of conflict is in neither case the result of systematic association. (3) There is the complex and perfectly balanced mind as opposed to the mind of the extremist or specialist, and this is not to be measured by the degree of coherence and systematic association, but the degree in which the mind is open-eyed to facts and surveys them from many sides. (4) There is the harmony which is indeed a result of systematic association but produces not a logical connexion of ideas but an æsthetic harmony. In constructing a drama the poet does not attempt to eliminate incoherence and contradiction from the minds of his characters, because he knows that he would be false to nature in representing man as self-consistent. (5) There is the harmony which means that the ideas are not in conflict in the sense of not tending to realise conflicting ends. This is the outcome of systematic association. For if ideas are associated for a common end, if irrelevant or hostile ideas are excluded, this means that the connexion of ideas established is in harmony with that end. In a system of ideas all is in harmony in this sense at least, that all is relevant to its end or object.

As M. Paulhan passes from the highest types of systematic association which are characterised by this harmony to the lower types of strife and contrast, he represents this strife as due to the decreasing efficiency or amount of systematic association. The germ of this strife, he remarks, is already present in the tendency of a mental element to associate with other elements for a common end, since this involves the inhibition of ideas which are useless or hostile. Now suppose that "the struggle is prolonged, that the inhibitory action cannot be rigorously exercised,"[1] we witness a struggle of opinions which may endure a lifetime. But this introduces us to a meaning of strife which, so far from being the witness of the relative absence or inefficiency of systematic association, is the witness of its presence and vigour. The psychological process of doubt and question is essential to our progress in knowledge. It is strictly relevant to that end and in this sense in harmony with it. But it is a process of conflict. We do not know which of two conflicting opinions is true, and we search for long without obtaining a conclusive answer. So far from avoiding a conflict of opinion the scientific thinker seeks for it. Then why is the man whose mental life is passed in such struggles, who as soon as he emerges from one enters upon another connected with it, who through

[1] P. 178.

them progresses in knowledge and the systematic connexion of his ideas, why is he an example of a lower type of systematic association than the man whose mental harmony is not disturbed? The harmony of thought which is never broken by a conflict of ideas is the lethargy of an imperturbably sluggish mind. It is not evidence of a high degree of systematic association. The ambiguities of this phrase are coming to the light. In the sense of harmony of thought as absence of mental strife, no type could be higher; in the sense of the relevant connexion of thought in reference to a controlling end, no type could be lower. And the thinker whose life is passed in a succession of mental conflicts all of which bear on the attainment of a definite kind of knowledge, belongs to the highest type in the sense of the logical connexion of thought, and to the lowest in the sense of the absence of strife. He may indeed attain to harmony in another sense; for the man who doubts long, wrestles with conflicting ideas and is slow and cautious in expressing certitude, will be relatively free from contradiction compared to the man who is stubborn of opinion and repels doubt, or to one who is restless in it and eager to leap to a conclusion. The harmony of thought, as absence of the strife of doubt, is manifested whenever we rest in a conclusion; and the boorish mind which accepts its beliefs from tradition and the gifted thinker who at the close of life has completed his system, both exhibit this mental harmony. But in the one, it is evidence that the development of his thought has scarcely begun; in the other, that it has relatively ceased. And the thinker who on the completion of his work does not commence anew, henceforth exhibits the working of systematic association on a lower plane in the fragmentary way of ordinary thought. There is then a sixth meaning of harmony which we must distinguish, harmony as absence of the strife of doubt. And while systematic association tends to remove, it also tends to elicit such strife afresh, which is always most absent from the mind that least connects its ideas.

We have seen the ambiguities in these fundamental conceptions of our author, of the senses in which harmony is not the result of systematic association, nor strife of its relative inefficiency or absence.

We have to consider one other fundamental question before we can complete in outline the survey of our author's work. What does he conceive the character of illogical thought to be, and how does he connect this with a defect of systematic association? Illogical thought "consists essentially in a want of co-ordination of intellectual phenomena which is shown in the employment for the same end of materials tending to different ends.[1] The mind affirms and denies at the same time; that is the common source of illogical thought."[2] The reader will observe the attempt which the author makes to interpret a contradiction by his

[1] P. 253. [2] *Ibid.*

principle of systematic association. A contradiction we understand to be the predication of contradictory qualities of the same *subject;* he interprets it to be the association for the same *end* of materials tending to different ends. This unity, he remarks, is a "fallacious unity". Once the ideas are sufficiently developed for their opposition to be real, it "becomes impossible for them to associate together for a common end, to draw the mind to the same conclusion".[1] Thus he resolves the fundamental character of thought into a case of systematic association. The fundamental character of thought is such that when we think of anything, we must think of it as qualified in some way. There is a unity of two: the thing, and the idea we predicate of it. And as we cannot get below this character of thought or explain it by any form of association, so we cannot explain by any form of association its other character, equally fundamental, that when we predicate one quality of a subject we cannot predicate of it a contradictory quality—unless we suppose the subject to be in process of change and the contradictory qualities to be true of its successive states. Association expresses the tendency of a mental element to suggest some other element, and systematic association, according to M. Paulhan, to suggest such another as will be "capable of associating with it for a common end". Systematic association is then controlled by the thought of an end, presupposes thought and does not account for it. The elements we associate together are thoughts. We may indeed assume that beneath thought there is "anoetic experience":[2] but the combination of anoetic experiences still leaves us with anoetic experience. Their association cannot create thought. Thought is a unique differentiation, and cannot be resolved into an association of elements which we may suppose to be present at a lower psychical level.

We come now to the question how far the various types of illogical thought can be explained as due to the incompleteness or decay of the systematic association of ideas. I am not sure whether M. Paulhan thinks that every variety of illogical thought can be interpreted by his principle, and classified under it. There can be no doubt that in proportion as a man compares his opinions and ideas, and associates them together for the purpose of eliminating their errors, through this very connexion of them he becomes conscious of their disagreement and contradictions, and that with "the progressive relaxation of mental co-ordination,"[3] contradictions between them develop which a higher degree of systematic association would have arrested. In the interesting type of the divided minds (*les divisés*) the author well shows how "the family, the school, business, the different circumstances of life develop in

[1] P. 260.

[2] See *Analytic Psychology*, by G. F. Stout, vol. i., pp. 50, 91.

[3] P. 359.

them distinct series of beliefs which remain isolated"; [1] and how contradictions are thus developed of which the individual remains totally unconscious. And these incoherences become still more marked among the frivolous, a type which M. Paulhan has admirably portrayed. Here the mind is incapable of reflexion or of following a train of reasoning. It is at the mercy of every impression, and at each moment a new one drives out and effaces the preceding.[2] Thus the amount of incoherence and contradiction of thought may be in a general way connected with the relative absence or decay of systematic association, but all incoherence and contradiction cannot be so interpreted. There is the difference between one man and another in the degree of clearness of his thinking. Why is it that our ideas are sometimes confused and at others distinct? No doubt, as a rule, when they are most distinct, we find a greater degree of systematic connexion. But the degree of their systematic connexion does not wholly produce their degree of distinctness; their degree of distinctness in its turn influences their degree of systematic connexion. A vague idea has less power to suggest other ideas which are identical with it than a clear idea. Its vagueness renders it unsteady, and it is liable to be effaced by any idea which is clearer; it is relatively worthless as a centre of systematic association. For in systematic association we require one idea to develop other ideas which are at some precise point identical with it—identical as examples of its type, as means to its end, as conditions or consequences of it. But the vague idea has no precise point; it loosely suggests now an idea connected with it in one way, now one connected in another: and from its inability to be precise and to distinguish arise all those errors and contradictions which we class as confusions of thought. Illogical thought must then be held to have a source distinct from the degree of systematic association; although on the other hand an idea can only reach its highest degree of distinctness when we have systematically associated with it all the ideas from which we have to distinguish it. Another source of error and sophistry which cannot be explained by M. Paulhan's principle is that which he mentions as due to the influence of sentiment.[3] Here we must again reiterate that we cannot oppose without qualification the intellect and the sentiments. It is not the love of truth which produces sophistry, but sentiments other than the love of truth. Each sentiment organises a certain amount of thought, and this thought may be relatively free from error where it represents the means to a given end, for the desires subordinate to the sentiment desire to attain their ends. But it is where a doubt is cast on the value or rightness or wisdom of these ends from the point of view of some other sentiment that sophistry arises. For desire must defend its end against competing desires: and truth may not enter the

[1] P. 330. [2] P. 342. [3] P. 310 *et seq.*

system of a sentiment where truth would wreck its object. And in proportion as thought is highly organised in a sentiment and the whole system thus formed has a strong and well-connected structure, in that proportion will it be a fertile source of fallacies whenever some other sentiment seeks to deflect it from its object.[1]

The work which has been here reviewed is, in respect of its general principles, in a sense unique. No other attempt so far as I know exists to study psychologically the perplexing intellectual differences between men, to discern the distinctive types which they present, and, what is still more difficult, the principle which penetrates them and affords the basis for their classification. No mind but one trained in habits of self-reliant and independent thought could make any headway in this unexplored department of comparative psychology. But in my judgment the chief value of the work will lie in the detail of it, in the many admirable types which the author has portrayed and analysed with fine penetration.

We may hope that British psychologists will no longer abandon to their French fellow-workers the glory of being the only pioneers in this profoundly interesting and important field of comparative psychology.

ALEXANDER F. SHAND.

La Psychologie des Sentiments. Par TH. RIBOT, Professeur au Collège de France, Directeur de la *Revue Philosophique.* Paris: Félix Alcan, 1896. Pp. xi., 443.

THIS important monograph forms an addition to the Bibliothèque de Philosophie Contemporaine. Its appearance will be welcomed by all students of psychology; for no department of psychological literature is poorer than that which treats of the feelings; and little has been done in the way of bringing together the various suggestions which have been offered towards a connected theory of this difficult subject. To do this is the main intention of M. Ribot's work: its aim is "to set forth the present state of the psychology of the feelings". It is needless to say that the task is performed with the acuteness and felicity of exposition to which M. Ribot has accustomed his readers; and that, even in "marking time," he neglects no occasion of making his own interesting contribution to the solution of the questions that are raised. He omits no important aspect of his subject; and he makes use of every kind of evidence which bears upon it. His treatment of it is specially distinguished by the prominence which he gives, on the one hand, to the indications of the development of feeling furnished by observation of children, and, on the other hand, to the contribution

[1] For an account of this theory of the sentiment, I must refer the reader to my article in MIND, N.S., vol. v., pp. 214 to 226.

to our knowledge of normal emotions which is made by the pathology of mind.

In an Introductory Chapter on the evolution of affective life M. Ribot gives a preliminary indication of the scope of his work. He begins by marking the cardinal distinction, upon which his idea of a psychology of feeling depends, between the two elements which constitute affective states. He conceives the fundamental or primary element to be motor states or *tendances* (a word to which in his whole discussion he gives a very extended and rather indefinite application); while the consciousness of pleasure or pain, which most psychologists consider to be the main characteristic of feeling, is a secondary, and in a sense, superfluous, addition. In vital sensibility, which he follows Sachs, Verworn, Bastian, and others in regarding not as even a rudimentary consciousness, but as purely physical and chemical, he finds an embryonic form of conscious sensibility—a root of the affective life independent of consciousness; and in this basis of the affective life he finds proofs of the existence of states which are *purely* affective, and from which every "intellectual" element is completely absent. M. Ribot distinguishes four classes of these states: *viz.*, a pleasurable state, a painful state, a state of fear, and a state of excitability. His argument against *les intellectualistes*, who conceive a cognitive element to be essential to human feeling, is chiefly directed, both here and elsewhere, against Lehmann, whose *Hauptgesetze des Menschlichen Gefuhlslebens* is made to bear the brunt of M. Ribot's criticism. The case for purely affective states is made to rest chiefly upon the early period of child-life, and upon the fundamentally physiological character of emotional disturbances in adolescence and in mental disease. But it can hardly be said that the author establishes the existence of affective conditions of consciousness which are wholly non-intellectual; and indeed it is not easy to suggest how complete demonstration of their existence could be offered.

This sharp distinction between the physical and psychical constituents of affective states determines the classification in which M. Ribot presents his account of the evolution of feeling. Above organic sensibility he finds four distinct classes of affective states, which he names in the order of their development. First comes the period of *needs* of vital or physiological *tendances* accompanied by consciousness—which are generally and conveniently summed up as the manifestations of an instinct of self-preservation. This is followed by the period of *primitive emotions*—fear, anger, affection, self-feeling, and sexual emotion—among which M. Ribot refuses to classify pleasure and pain, since all emotion is particular and definite while these are general characteristics of the affective life. After these come the *abstract* or *complex emotions*, which depend upon general ideas, and finally the *passions*, which occupy in the affective life a position analogous to that which is held by fixed ideas in the intellectual process.

Such, in outline, is M. Ribot's conception of his subject. His work itself falls into two parts: I., General Psychology—an account of the general characteristics of feeling; and II., Special Psychology—a descriptive and genetic account of the various feelings which actually constitute the affective life.

The first six chapters of Part I. are occupied with the discussion of pleasure and pain. Physical and mental pain, which are regarded as fundamentally identical, are considered in two chapters, the first of which gives an account of the physiological conditions of pain, and prepares the way for a theory of emotion by the conclusion that pain is ultimately conditioned by chemical stimulation of vasomotor nerves; while the second represents the development of mental pain as consisting of three stages which are determined severally by memory, by association with representations, and by association with concepts.

The most interesting point in the chapter on pleasure is the view which is suggested as to the relation of pleasure and pain. M. Ribot insists on the co-existence and mutual implication of pleasures and pains; and he follows Beaunis (*Sensations Internes*) in explaining the rise of each of them as the predominance of certain elements in the mental complex, while other elements are held in abeyance. An acute though hasty discussion of abnormal states of pleasure and pain is followed by a chapter on neutral states. The author inclines to believe in these states of indifference—chiefly on the ground that habituation renders them probable; but he suggests that their existence or non-existence may be a variation of individual temperaments.

The foregoing discussions are summed up in a statement of conclusions as to pleasure and pain—the conditions of their existence and the nature of their utility. On neither of these subjects, however, has M. Ribot any important contribution to make. He adopts, though with some hesitation and amendment, Meynert's account of the relation of pleasure and pain to motor and vascular reflexes; and he is satisfied to accept the evolutionist explanation that they exist in virtue of their life-preserving character, although he is fully aware of the facts which this account fails to explain. In this connexion he reprobates the desire of philosophers to find a single explanation for all the facts. Yet on occasion no one has a finer contempt than M. Ribot for explanations that do not explain, and theories which are compelled to leave out large parts of their subject-matter.

This discussion of pleasure and pain is followed by an account of emotion, which describes its intimate nature, its internal and external conditions, and the various attempts which have been made to classify the emotions. The first part concludes with chapters on affective memory and on the relation of feeling to the association of ideas.

The chapters on Emotion form one of the most important sections of the book. One is, of course, prepared, by M. Ribot's

whole account of feeling, to learn that he adopts "the James-Lange theory" in a very whole-hearted way. Reserving the question how far this theory does justice to the facts of the case, it is only necessary to add that M. Ribot maintains, in his clear and interesting version of it, the high level of his whole book.

Of the second part of the book, which deals in a descriptive way with special affective conditions, it is not necessary to say much. It follows the lines which were laid down in the first part, in giving an account of the several affective phenomena. The primitive or simple feelings are first examined—the "instinct of self-preservation" under its various forms of purely physiological response, fear, anger, affection, the phenomena of self-feeling, and sexual instinct. The chapter on "the *ego* and affective manifestations" is especially suggestive. The complex emotions —social, moral, religious, æsthetic, and intellectual feelings—are next reviewed at considerable length, and with a good deal of interesting detail; and the work concludes with a discussion of character—normal and abnormal—and of the dissolution of the affective life. The chapters on these subjects connect themselves with the discussions of Schopenhauer, Paulhan, and Fouillée, and are of the greatest interest throughout. They should certainly be neglected by no one who still hopes for a psychological science of Ethology.

In an epilogue on the place of the affective element in the psychic life as a whole, M. Ribot contends that feeling is the primary or dominant factor, which appears first and determines the mental process throughout. The difficulty of establishing the facts on which such a view must rest has already been suggested; and at the end of M. Ribot's argument one is still left without sufficient grounds for sharing his opinion. Unless we begin by assuming that organic response is feeling, we do not reach the conclusion that feeling, as we know it, has any real priority to other aspects of human consciousness. That state of human beings which we call feeling can no doubt be traced, in part at all events, to an origin in the primitive responses which are all that we know of the simplest forms of life; but volition and knowledge are in no different position in this respect; and unless these can be shown psychologically to be reducible to feelings we must remain unconvinced that feeling as we know it is in any sense prior to them. It appears more in analogy with what we know of organic and mental development to see in the primitive organic response the germ of the processes which underlie all aspects of consciousness than to identify it directly with any one of them.

The conclusion that feeling is the same as organic response is an error or a half-truth, which may, I think, be traced partly to a too exclusive use of the comparative method in psychology; for the use of this method, to the exclusion of introspective analysis of consciousness, leads to neglect of those aspects of mental life which distinguish it from every form of organic change, and to an

easy but inexact identification of conscious processes with those phenomena of animal life which resemble their outward manifestations. It may be said that this is throughout the weakest side of M. Ribot's book. He excels in the use of those important results which are obtained by comparative methods; but he neglects direct psychological analysis, and his work suffers accordingly. This is particularly noticeable in the chapters on Religious and Æsthetic Feeling. We might reasonably have hoped for a systematic attempt to analyse these feelings—to give an account of them in terms of simpler elements out of which they may be supposed to be built up. Instead of this we find little more than a comparative description of the phenomena, which, though suggestive, is generally rather external, and which leads to no real account of the mental states in question.

Undoubtedly, the most serious question for a critic of M. Ribot's work is the theory of emotion which is maintained. It has already been pointed out that M. Ribot is one of those psychologists who follow James and Lange in conceiving emotion to be merely and absolutely the consciousness or sensation arising from expressive action. That the theory is not a private view of M. Ribot's and that he has made no considerable alteration in it might be taken as sufficient excuse for omitting a criticism which must be too short to serve any good purpose. Yet the theory is, in the nature of the case, so integral to M. Ribot's whole account of emotion that a single remark must be allowed. It is, of course, impossible to deny, and one can only be surprised that it has been found so generally possible to ignore, the vast part which expression plays in the development of emotional consciousness. Undoubtedly, the consciousness—or more strictly, the effect in consciousness—of its physical resonance or organic expression, forms an element, and an element of first-rate importance, in every emotional state. Yet there is no emotion—because there is no state of consciousness—within our experience, which is so wholly destitute of cognitive or ideational content that it can rightly be called a mere feeling or the psychical equivalent of an expressive movement; and in emotion the relation between these two elements or constituents of the complex state of consciousness is such that it is impossible to suggest that either could be without the other precisely what it is in the complex concrete reality. It is easy, indeed, to speak of simple emotions; yet any actual emotion is not simple but intensely complex—a synthesis not merely of impressions due to vascular and motor functioning, but of these with other contributions of sense and memory. There is no emotion which is not, in one way or another, a consciousness of an object, and in which this consciousness does not impart definite character to the state of mind produced by expressive reactions, so that these have a significance which they would not otherwise possess.

It is perhaps in some ways unreasonable to advance such

objections as this against M. Ribot's account of emotion; since they merely form a direct contradiction of what he must regard as the fundamental proposition of a theory of feeling. Yet I have thought it necessary to point out this difficulty, in order to suggest that the view that emotion is merely sensation of expression is an artificially simple explanation, and fails to account for emotion as a concrete reality.

Even those, however, who differ most widely from M. Ribot can hardly fail to recognise the skill and simplicity with which he presents his thesis, and the learning and acuteness that characterise his investigation of a subject with which few psychologists have come to such close quarters. His book is certainly a solid contribution to the discussion.

It is, perhaps, to be regretted that M. Ribot has not furnished fuller references to the authors whom he consults and criticises. A bibliography of the subject, such as he could furnish, would be of the utmost value to many readers. Among slight inaccuracies, it may be mentioned that the English ethnologist "Taylor" to whom frequent references are made is Mr. Tylor.

CHARLES DOUGLAS.

De l'Infini Mathematique. Par LOUIS COUTURAT, Ancien Élève de l'École normale supérieure, Agrégé de Philosophie, Licencié ès Sciences Mathématiques, Docteur ès Lettres. Paris: Félix Alcan, 1896. Pp. xxiv., 659.

THE relation of number to quantity forms perhaps the most difficult, as well as the most fundamental, of the problems of mathematical philosophy. On this problem at least three radically different views may be taken. We may, with Mill and most thorough-going empiricists, regard number as empirically derived from quantity, and quantity itself as a datum in experience. Or we may regard number as wholly *a priori*, and quantity as the result of applying to experienced data the *a priori* category of number. This view has been much advocated in France of late years, especially in M. Hannequin's important work on Atomism.[1] Lastly, we may hold that number and quantity are wholly independent categories, and that the application of number to quantity, as it occurs in measurement, has no deeper motive than one of convenience.

The last of these three is the view of M. Couturat, who is forced, in the course of an able apology for mathematical infinity, to devote most of his space to the relations of quantity and

[1] *Essai Critique sur l'Hypothèse des Atomes.* Paris, 1894. M. Hannequin's book and M. Couturat's should be compared, as they deal ably with almost the same theme from different standpoints.

number. Infinite quantity, he urges, is given *a priori*, and does not stand or fall with infinite number. To maintain this thesis it is necessary to establish the independence of quantity, and this independence is, in fact if not in form, the chief theme of his work.

The work is divided into two parts, of which the first, on the generalisation of number, is content to exhibit and analyse those results of mathematical science which bear on the question at issue; while the second part, on number and quantity, adopts a critical and philosophical attitude, and endeavours to establish, by philosophical considerations, the legitimacy of the notions of infinity and the continuum. Whichever may be the most valuable of these two parts, the second is the most interesting to the student of philosophy, and will be the more fully discussed here.

The first part is divided into four books: the first three deal with the generalisation of number as it appears in arithmetic, algebra and geometry respectively, while the fourth deals with mathematical infinity. The aim of the first three books is to exhibit the growing necessity and the diminishing conventionality of this generalisation in the three sciences in question. In arithmetic, whose primary subject-matter is positive integers alone, fractions, negative numbers and imaginary numbers can only be introduced in an arbitrary and conventional manner. We take two integers in a given order, regarded as forming a couple with certain arithmetical properties, and establish arbitrary definitions of the equality, addition, and multiplication of two such couples. According to the definitions chosen, one of the three kinds of generalised number results.[1] We cannot arithmetically introduce these generalisations in the ordinary way, for unity, in pure number, is indivisible, and such an expression as $\frac{1}{3}$ has no meaning except what we choose to assign to it. The arithmetical generalisation is, therefore, of necessity an arbitrary and apparently motiveless process, giving rise to symbols which are without arithmetical meaning, and are only subject by convention to arithmetical operations. Irrational numbers are still more difficult to introduce arithmetically, and they first involve infinity. They express, in arithmetic, the mere absence of a number of any of the former kinds at certain points in the scale, and arise from the possibility of dividing all rational numbers, in an infinite number of ways, into two classes, such that any member of the first class is smaller than any member of the second, but no assignable member is the largest or smallest of the respective classes. There is thus a gap, which can only be filled in by a symbol expressing the absence of a rational number at the point in question.

The algebraical generalisation, as M. Couturat calls it, is less formal, and proceeds from the desire to be always able to assign

[1] For example, fractions are defined by the following conventions: $(a, b) = (c, d)$ if $ad = bc$; $(a, b) + (c, d) = (ad + bc, bd)$; $(a, b) \times (c, d) = (ac, bd)$.

roots to equations of the first or second degree. Thus equations of the first degree, to be always soluble, require negative numbers and fractions; equations of the second degree require irrational and imaginary numbers. But the algebraical generalisation is unable to obtain the so-called transcendental numbers (e and π for instance), which are not roots of any algebraical equation of finite degree. These mark the distinction between quantity and number, and point to the former to justify the generalisation of number.

Proceeding to the geometrical generalisation, M. Couturat points out that, even in algebra, there would be no need to demand that equations should always have a root, if these equations were not the statement of real problems arising outside algebra. Such problems occur in geometry, where first we find the true interpretation, as quantities, of the symbols which, from a numerical point of view, appeared to indicate impossible problems. All varieties of number, including transcendental and imaginary numbers, find here their justification and their motive.

In all this there is, from one standpoint, nothing to criticise: it is a clear and lucid account of the motives which have led mathematicians to abandon the restriction to positive integers which the pure idea of number would seem to impose. When the unit, divisible and possessed of qualities, is substituted for the abstract unity of arithmetic, all the apparatus of mathematical analysis inevitably arises. But the unit itself is not thereby freed from difficulties, and the contradictions latent in the quantitative unit appear to be inadequately realised by our author. Of this we have evidence in his fourth book, on mathematical infinity, where he argues that infinite quantities are actually given, and enforces his contention by considering the intersection of two lines which gradually become parallel. These have no intersection at a finite distance, but they cannot, he says, suddenly cease to have an intersection, for such a breach of continuity, though not logically contradictory, would be irrational (p. 216). This is the first application of a somewhat dubious principle, borrowed from Cournot, and emphatically stated in the preface (p. x.), according to which philosophy has to choose, between several equally *logical* alternatives, the most *rational* one. The use of this principle, which is frequent, seems to me not very happy, and indeed may be employed to cloak what is really intellectual capitulation. M. Couturat appears to be an idealist, and on critical occasions appeals to the reason as against the understanding (see *e.g.* pp. 537, 565). But the function of reason, in the opinion of most idealists, is not to pronounce between alternatives which logic leaves undecided, but rather to find a logically possible alternative where the understanding finds none. This view of reason seems never to occur to our author, and the possibility of contradictions in results to which the understanding

appears forced, though peculiarly evident in the case of mathematical infinity, is strenuously denied throughout the work. His rational principles, of which the principle of continuity is the chief, are thus introduced more or less arbitrarily, and appear as dogmas rather than genuinely necessary axioms. The scoffer might even be tempted to identify his "reason" with common sense.

Of this general criticism, we shall have abundant illustration in the second part of the work, which deals philosophically with the relation between number and quantity, and with the objections to infinite quantity. The first book, on number, begins with an excellent criticism of the empirical theory of number, by which M. Couturat means, not the much-refuted theory of Mill, but the formalist theory of Helmholtz and Kronecker. This theory defines numbers as mere signs with a fixed order of sequence, and endeavours to deduce the properties of cardinal numbers from this definition of ordinals. Our author insists—I think with complete success—that we must begin with cardinal numbers, and that the attempts of Helmholtz and Kronecker involve either a vicious circle or a *petitio.* He then proceeds (book i., chap. iii.) to the rationalist theory of whole numbers—one of the very few subjects in epistemology, I suppose, upon which there is at present a consensus among experts. Number requires only a logical and formal unit, created by thought: all the objects of a numbered collection must be regarded as units in this sense, and in so far identical, while the whole collection must, in turn, be regarded as a complex unity. The idea of unity is an *a priori* idea, and is never given by the data of sense. It is doubly involved in number, which is a "unity of a plurality of unities" (p. 361).[1] In the next chapter, after urging that number requires no schematism, as Kant had maintained—for it is not successive enumeration, but simultaneous apprehension, which is needed (p. 354)—our author begins to tread on more dangerous ground, by the consideration of infinite number. One would have supposed that the condition of being a completed whole, which he has urged as necessary to number, would have precluded the possibility of infinite number. But M. Couturat boldly contends that a collection is given as a whole, as soon as we have a law by which any required number of its members can be constructed, and from which no member is exempt. The conditions for a number of a collection may, therefore, be satisfied, even if the collection is infinite, and successive enumeration of all its terms is impossible (p. 351). This is certainly the only hope of saving infinite number from contradiction, and M. Couturat has made the most of it. As he deals with the same topic more fully at a later stage (book iii.), I shall post-

[1] "Units" would perhaps be a better word, but as there is only one word in French for unit and unity, the distinction has to be made by translation.

pone the criticism of this view till we have discussed book ii., which deals with quantity.

The main contention of book ii. is, that quantity is as *a priori* as number, but is an entirely independent category. The idea of quantity, he says, is indefinable and irreducible: to define it as what can be increased or diminished involves an obvious circle (pp. 367-9). If quantity be indeed an independent category, we must of course agree that it cannot be defined in terms of other categories: but one could wish that M. Couturat had made more attempt to show that it is a category free from contradictions, and that there is some way of knowing about it without the help of number. Measurement, he admits, consists in the numerical expression of quantity, and thus introduces axioms due to the nature of number, and producing a conflict between number and quantity (pp. 404-5). But he thinks that the equality and addition of quantities of the same kind can be effected without reference to division into units, and therefore without dependence on number (p. 404). Chapters i. and ii. of this book give the axioms of equality and addition, which are declared *a priori*, and are stated in a form apparently free from reference to number. But they seem very insufficient for the foundation of a science of quantity. Thus he says, for example, that equality in general cannot be defined, but as soon as we have the idea of any kind of quantity, we have the idea of equal quantities in this kind, or rather of the same quantity in different objects (pp. 372-3). This seems vague, and it might be objected that we cannot have the idea of a kind of quantity until we know what we mean by equal quantities of this kind, since it is equality and inequality which constitute quantitative relations. Again he says (p. 389) that the sum of two quantities is a quantity of the same kind. If this axiom were really independent of division into units, it would hold equally of intensive quantities, but this is not the case. The sum of two temperatures, for example, is meaningless. He has also what he calls the axiom of the modulus (p. 399), according to which there exists a certain real quantity, called zero, such that, when added to any other quantity, it leaves that quantity unchanged. Having been told previously (p. 232) that a zero distance is not nothing, but just as real as any other distance, we are not surprised at this axiom; but it is a pity that no attempt is made to explain what a zero quantity is. Zero would seem to be about as non-existent as anything could be; for it is defined as nothing but quantity, and further as containing no quantity. We are not told *how* to make something of this apparent nonentity; and it is even supposed that objections to infinity will be silenced by the argument that the same objections apply to zero (p. 436). Zero is said to have a rational, not a logical, necessity (p. 402); without zero, it is said, measurement would be impossible. It seems strange to assign rational necessity to anything so grossly contradictory as mathematical zero, and its

necessity for measurement seems at best doubtful. Temperature, for example, has a purely fictitious zero, and yet is measured by the thermometer. The fact is, I think, that quantitative zero is a limit necessarily arising out of the infinite divisibility of extensive quantities, and that M. Couturat's axioms are only applicable to extensive quantities. In this way division into units is surreptitiously introduced; but by immediately declaring every axiom in turn *a priori*, without analysis of its grounds, the necessity of reference to number is concealed.[1]

There are several other points in this book which call for criticism. On p. 416, the axiom of continuity is given in the form: "If *all* the quantities of a kind can be divided into two classes, such that all the quantities of the one are smaller (or larger) than all the quantities of the other, *there exists* a quantity of this kind which represents this mode of division, and which is at once larger than all the quantities of the inferior class, and smaller than all the quantities of the superior class". Against this definition a dilemma may be presented: *either* the word *all* is not to be taken as including the quantity which lies between the two classes, in which case the definition applies equally to discreta, *e.g.*, the series of natural numbers; *or* the word *all* is to be taken rigidly, in which case there is a palpable contradiction in supposing another quantity of the same kind, which does not belong to either of the classes into which all the quantities of the kind have been divided. That such a contradiction must necessarily hold of continua, I have no wish to deny; but it seems bold to say, of an axiom involving this contradiction, that though indemonstrable, "it possesses an evidence almost equal to that of analytical judgments" (p. 416), and that its justification is not logical but rational (p. 554). Again, in discussing the definition of number as the ratio of quantities of the same kind, he defends the definition from the vicious circle which it appears to involve, by declaring that ratio is a fundamental idea not susceptible of definition (p. 426). In view of the obvious method of defining ratio by means of number, this almost reminds one of Mill's "final inexplicability". Finally he says that incommensurable quantities must have a ratio, for otherwise two continuous variables would have a ratio one moment and none the next (p. 428), and that to identify unity with the quantitative unit is impossible, since it either supposes unity divisible or the unit indivisible. He does not seem to realise that the possibility of continuous variation, and the impossibility of indivisible units, are the very points which a champion of quantity, as against number, has to establish.

[1] On one of these axioms, the axiom that of two magnitudes of the same kind one must be the larger, there is a rather serious inconsistency; it is denied as regards imaginaries on p. 46, and affirmed to be *a priori* on p. 384.

The third book consists of an answer to the usual objections to infinity, which is given in the form of a dialogue between a finitist and an infinitist. The proofs that infinite number is impossible, he says, all rest on one of two fallacies: (1) that infinity is the largest of all numbers, and (2) that all infinities are equal. Both these are false, he says, and the difficulties to which they have given rise are all resolved by Cantor's transfinite numbers (p. 455). The actual infinity of the series of natural numbers is not contradictory, he says, for it results from their law of formation, by which they are given as a totality.[1] That the resulting infinity may reveal a latent contradiction in the law of formation itself, appears not to occur to him. Thus when the finitist objects that an infinite collection can never be really given or really a whole, the infinitist replies that, in that case, number itself must be contradictory (p. 471)—a conclusion from which, one would think, a bold disputant would scarcely shrink. But infinite quantity, he says, is even simpler than infinite number, for it does not necessarily consist of a collection of units. It is difficult to see in what sense a quantity is infinite, unless it is compared with some unit, of which an infinite number would be required to reproduce it. But M. Couturat holds that an infinite quantity can be given to begin with as a totality, and that measurement can be effected otherwise than by the addition of elements (p. 483). How the latter is possible, he does not explain; integration, which he gives as an example, is essentially an addition of elements. The possibility of the former, one would think, is sufficiently disproved by the stock argument, that mathematical infinity consists essentially in the absence of totality, the absence of completed synthesis. But infinite quantity, as M. Couturat says, depends on continua, and these, like most of the fundamentals in his work, he regards as given by reason, not by logic (pp. 497-8). For one equipped only with logic, it is impossible to follow into this fortress of reason, where the shafts of logic cannot penetrate.

In the last book, conclusions are drawn from the previous discussions. Beginning with number, it is pointed out that number, like the concept, depends on generalisation and abstraction; it is, indeed, the other face of the concept, the extension corresponding to a given intension. But since it requires that its constituents should each be united, and all be similar, its application to reality is never wholly legitimate, for similarity and unity seem to exist in inverse ratio. The latter is best found in organisms, the former in homogeneous continua. All this is excellent, like what was said on number in book ii.; but it is a pity that a similar process of criticism is not applied to continuous quantity, which stands at

[1] There is some inconsistency on this point. Sometimes it is argued that all the natural numbers are given by successive addition of unity, sometimes, with Cantor, that another principle of formation is also required. Compare, *e.g.*, pp. 364, 465.

least as much in need of it. As regards this conception, M. Couturat points out that it is not given by sensible experience, since sensation can never reach an accuracy sufficient to exclude discreteness. Thus irrationals suffice to prove that quantity is not empirical; it is in fact, he says, *a priori* and due to reason. With the justification of quantity comes the justification of infinity, which reason, he says, does not obtain by successive synthesis, but sees from the start (p. 565). From this conclusion, he goes on to Kant's antinomies, whose theses, since the realised infinite is not impossible, he declares to be all false (p. 567). The antitheses, therefore, he regards as true, and Kant's objection to them, he says, is due to the schematism of the categories, which led him to regard quantitative synthesis as necessarily successive, while every quantity, in fact, is given first as a whole, not as a synthesis of parts.

It seems to me that this argument, as well as the whole argument against the "finitists" throughout the work, rests on a misapprehension of their position. That infinity follows necessarily from certain premisses—*e.g.*, the reality of space and time as something more than relations—must be admitted; that infinity is useful and unobjectionable in mathematics, is by this time almost self-evident; but that mathematical infinity is philosophically valid might, I imagine, be met by two converging lines of argument. The first and more usual argument would urge the contradictions of infinity, which M. Couturat, I think, has not succeeded in disproving; the second might urge that, in all the cases where infinity is unavoidable, there has been some undue hypostatising of relations, which makes the attainment of a completed substantive whole impossible. These lines of argument, however, can be only suggested within the space of a review.

Finally, I wish to urge the very solid merits of the work, to which it is difficult, in the course of detailed criticism, to do justice. The position taken up is the only one from which infinite quantity can be philosophically defended, and the main thesis is carefully and consistently worked out. To take up an unpopular cause is always praiseworthy, and almost always useful; in the case of M. Couturat it is certainly both, and his book is likely long to remain the classic advocate of mathematical infinity.

B. RUSSELL.

VIII.—NEW BOOKS.

Hegel's Philosophy of Right. Translated by S. W. Dyde, M.A., D.Sc., Professor of Mental Philosophy, Queen's University, Kingston, Canada. London: George Bell & Sons, 1896. Pp. xxx, 365.

The time seems now fully come when Hegel can be duly appreciated—neither blindly followed nor more blindly railed at; and one sign of this is that his system is being made in different ways more accessible to the English reader. The wonder is that the *Philosophie des Rechts* has not sooner attracted a translator. It exhibits the application of his principles in the concrete spheres of law, ethics and politics; in particular it adopts a treatment of ethics in close connexion with law and politics—a mode of treatment which at once carries us back to Plato and Aristotle and forwards to the modern conception of a general science of sociology; and apart from its important place in Hegel's system as a whole, it contains some of his most striking and characteristic *dicta*. It is, therefore, with great regret that a reviewer finds himself unable to commend this translation. It has evidently been done with much labour, and with a conscientious attempt to "ameliorate Hegel's rigid phraseology". Long sentences have been broken up into moderate mouthfuls. A brief index of words shows the varied devices to which the translator has resorted in his endeavours to make intelligible English out of such terms as *an-sich*, *an-und-für-sich*, *Bestimmung*, *Daseyn*, *unmittelbar*, and a few other technical terms of Hegel's logic. The entries, however, even under the words selected, are by no means complete: and it is curious that no account is taken, either in this index, or in the preface, or elsewhere, of the renderings adopted for terms which belong specially to moral and political philosophy, such as *Recht*, *Sittlichkeit*, *bürgerliche Gesellschaft*, etc. If a translation of Hegel is really to be of use to a reader who has not the German text beside him, surely some note is needed on the adoption of the term "right" in a conventional, but quite un-English, sense, as the equivalent of *Recht*. Again, it is difficult to get any one English word to represent Hegel's use of *Sittlichkeit* as opposed to *Moralität*, but "ethics" or even "ethical system" as opposed to "morality" surely needs some apology. "Civic community" is not a very happy rendering of *bürgerliche Gesellschaft*, and "city" (p. 194, § 190) is decidedly bad: something is needed to bring out the force of Hegel's antithesis between "society" and "the state". The word *gesellschaftlich* is translated "social" (*e.g.*, in § 194), but no warning is given to the reader that the term *Gesellschaft* is here the same as that rendered "community" elsewhere. In three cases only does the translator give in a footnote the German terms of the original: (1) where Hegel plays on the words *Gewissen* and *Gewissheit*; (2) where the connexion between *Gesetz* and *gesetzt* has to

be brought out; and (3) where *wirksame Gnade* is rendered "saving grace" (p. 139, § 140). If this last theological term deserves a footnote, *a fortiori* the original should have been noted in the case of words which are technical terms of Hegel's social philosophy. It should certainly have been pointed out on p. 23 (§ 12) that "resolve" and "decide" represent *beschliessen* and *sich entschliessen*. Translators of philosophical books seem very commonly to forget that translations may be of use not merely to those who are absolutely ignorant of the original language, but to those who know it in any degree short of perfection: and, though some typographical neatness may be sacrificed by the insertion of the original terms here and there in brackets or footnotes, the translation gains enormously in utility.

No one who has ever attempted to translate German will judge a translator, especially of Hegel, too hardly; but the present version shows a most lamentable lack of revision. The following examples will justify this complaint, and help to supplement the too brief table of *Errata*. P. xv. (Hegel's Preface), "I have used as lectures" should be "I have used for my lectures". P. xvii., "distributing on all sides the same old cabbage" is somewhat pedantic; "serving round" would be more suitable. P. xx. (footnote), "jurisprudence" is a misleading English equivalent for *die positive Jurisprudenz*, which means the practical science of the lawyer, as *opposed to* the philosophy of law. P. xxi., "Mr. Fries . . . on a public festive occasion, now become celebrated". "Festive" is a too happy version of *feierlich* here. P. xxii. and p. 323, why are the quotations from Goethe left untranslated? P. xxviii., Fichte is made to speak of "a photograph". The German is *Portrait*. Pp. 6, 53, 232, *Klöster* is mistranslated "cloisters"; it should be "monasteries". P. 25, "Friesian philosophy" should be "the philosophy of Fries". We are not in the habit of making adjectives out of minor philosophers. P. 47 (§ 40), "personal right, real right," are misleading renderings of *Personenrecht* and *Sachenrecht*. It would be better to keep the Latin terms *jura in personam* and *in rem*. P. 48, foot (§ 41), a "not" is omitted. P. 51 (§ 43), the English of *Veräusserung* as a technical term is "alienation," not "relinquishment". P. 66 (§ 62), *inutiles* is a misprint for *inutilis*. On p. 101 (§ 102) there is worse than a misprint, "Wherever crime is punished not as *crimina publica*," etc. The German runs *Wo die Verbrechen*. P. 103 (§ 104), *Vertrag* is translated "exchange". It should have been "contract," as elsewhere. P. 121 (§ 126), "When the holy Crispinus steals leather to make boots for the poor". "St. Crispin" would have a more familiar sound. "Crispinus" is solemnly entered in the index of subjects as if he were a father of the Church or an ancient philosopher. On p. 127 (§ 132) is a dark passage on which the original throws a curious light: "This claim [that the criminal must in the moment of his act have presented clearly to himself the nature of the wrong he is doing, etc.] . . . denies to him that indwelling intelligent nature, which in its active presence has no affinity with *the clear images of purely animal psychology*". The German is *die wolfisch-psychologische Gestalt von deutlichen Vorstellungen!* In the same section there is a wrong reference in the original, which the translator has not corrected. § 120 should probably be § 127. P. 150, the dots over the "u" have been wrongly retained in "Tartuffe". On the other hand the dots in *Ptolemäus* seem to have been overlooked in p. 268 note (quotation from Laplace). For "Ptolemaus," which is of no language, read "Ptolemy". P. 166 (§ 161), "in the majority of what are called rights of nature" should be "in most treatises on (or 'systems of') the Law of Nature" (*in den meisten Natur-*

rechten). In the same paragraph, in the sentence "Out of marriage has disappeared the love, which is merely subjective," the comma should be omitted; else the words may convey a more cynical sense than Hegel intended. P. 171 (§ 164), "Letters of an Unknown". The German is *Briefe eines Ungenannten*, not *Unbekannten*. The titles of books are translated and left untranslated in most capricious fashion. On p. 267 (footnote) the name of a book of Laplace's is given in German. Montesquieu's famous work is called "The Spirit of the Laws" (p. 249). On p. 182 we find "Cicero in his *Officiis*". (The German scholar will know why.) On p. 217 we have "Herr von Haller's 'Restoration of Political Science,'" but on p. 243 "Mr. v. Haller's 'Restauration der Staatswissenschaft'". P. 193 (§ 189), "political science" should be "political economy". *Staatsoekonomie* is only a part of *Staatswissenschaft*. P. 207 (§ 211), "England's land-law or common-law" is American journalist's English at the best, but it is also wrong. *Englands Landrecht* means simply "English law," the law of the country. P. 212 (§ 215), "Law as incorporated" is an odd rendering of *Das Daseyn des Gesetzes*, and is not noted in the index under *Daseyn*. P. 213, "To require of a statute-book that it should be absolutely finished, and incapable of any modification—a malady which is mainly German," etc. The last clause should run "a demand which is mainly a German malady". On the same page why is the French proverb, which Hegel quotes as "*Le plus grand ennemi du bien, c'est le mieux*," altered into "*Le plus grand ennemi du Bien c'est le Meilleur*"? P. 217, "Punishment also is ameliorated": "mitigated" would be better. P. 222, "There is attained only partial proofs": read "are". P. 233, "The basis of industry is the sea". *Industrie* should be translated "trade" or "commerce" here. P. 279, "Ephorat" is not English. P. 305 (§ 298), "the legislature interprets the laws" is a misleading rendering of *betrifft die Gesetze als solche, insofern sie weiterer Fortbestimmung bedürfen*. P. 309 (§ 311), etc., "the classes" (*Stände*) should be "the estates". On p. 311 the translator gives "the classes or estates". Hegel himself notes the ambiguity in the word *Stände* in § 303, distinguishing social or economic "classes" from political "estates of the realm". P. 325 (§ 318), "In public opinion all is false and true". · *Ist alles Falsche und Wahre* = "is contained all sorts of falsehood and truth". P. 328, "emperors" should be "generals". *Imperator* only means "emperor" in a special use. P. 336, "the houses" should be "the legislative chambers" or "the houses of parliament". On the same page (§ 330) "Hence we must here remain by the absolute command" should be "in the stage of mere *ought to be*," "we must be content with a mere ideal" (*beim Sollen bleiben*).

On the whole the more difficult metaphysical passages are the best translated, though a reference to the original is generally helpful and sometimes indispensable. But unscholarly slips, such as those noted, are an indignity to Hegel. Hegel had his prejudices: as Mr. McTaggart puts it (in his article "On Hegel's Theory of Punishment" in the *International Journal of Ethics* for July, 1896—a valuable commentary on a part of the *Phil. des Rechts*), Hegel may have attempted "to identify the kingdom of Prussia with the kingdom of heaven"; but he did not attempt to write on man as a social being without a very solid equipment of literary and historical knowledge. Carefully and minutely revised, Mr. Dyde's translation might be of great use to students. At present it is a somewhat uncertain guide.

DAVID G. RITCHIE.

The Principles of Sociology. By HERBERT SPENCER. Vol. iii. London: Williams & Norgate, 1896. Pp. 635.

We gladly join in the congratulations which Mr. Spencer has received from all quarters on the occasion of his completing the great task to which he has dedicated so large a portion of his life. In the preface to the present volume he tells us that it is six and thirty years since he commenced his system of Synthetic Philosophy. During that period no less than ten volumes have proceeded from his pen, and the present volume brings the series of works which represent his philosophical system to a close. In so far as he has succeeded amid many interruptions from ill-health in writing ten volumes, he has fulfilled his original purpose. But he tells us that he has not devoted these ten volumes to the subjects which he had at first in view. The first two volumes of *The Principles of Sociology* have expanded into three, and the third, which if written would now be the fourth, remains unwritten. This unwritten volume was to have treated of "Progress: Linguistic, Intellectual, Moral, Æsthetic". But Mr. Spencer says that the task of writing a satisfactory volume on such complex topics is beyond the powers of an invalid of seventy-six.

It is interesting to hear what Mr. Spencer has to say of his feelings now that his work is done. "On looking back over the six and thirty years which have passed since the Synthetic Philosophy was commenced, I am surprised at my audacity in undertaking it, and still more surprised at its completion. How insane my project must have seemed to onlookers may be judged from the fact that before the first chapter of the first volume was finished one of my nervous breakdowns obliged me to desist. But imprudent courses do not always fail. Sometimes a forlorn hope is justified by the event. Though along with other deterrents many relapses, now lasting for weeks, now for months, and once for years, often made me despair of reaching the end, yet at length the end is reached. Doubtless in earlier days some exultation would have resulted; but as age creeps on feelings weaken, and now my chief pleasure is in my emancipation. Still there is satisfaction in the consciousness that losses, discouragements, and shattered health have not prevented me from fulfilling the purpose of my life."

The present volume is devoted to an examination of the origin and development of Ecclesiastical Institutions, Professional Institutions, Industrial Institutions. The division on Ecclesiastical Institutions appeared more than ten years ago, the division on Professional Institutions appeared in the shape of review articles. The only portion of the book which is new are the chapters on Industrial Institutions. Detailed notice will follow.

Schopenhauer's System in its Philosophical Significance. By WILLIAM CALDWELL, M.A., D.Sc. London: Blackwood & Sons, 1896. Pp. x., 538.

This book, fuller notice of which is deferred for want of space, is the expanded adaptation of the author's Shaw Fellowship lectures delivered in 1893, and incorporates besides the substance of other lectures and of articles contributed to this journal. Holding that Schopenhauer and von Hartmann represent one-half of the philosophy of to-day, Professor Caldwell here presents us, not, according to his original intention, with a study of pessimism as represented by them, but with a study from a wider standpoint of the former thinker, reserving his say on the latter.

The result is no serial exposition of Schopenhauerism, but a number of practically independent dissertations on various aspects of that doctrine — its metaphysic, epistemology, etc., in which the author, having saturated himself with the doctrine, freely reproduces its essence, and, in a judicious, disinterested spirit, repeatedly and variously elaborates the central idea that Schopenhauer failed to see the fine constructive philosophy latent in the implications of his theory of will.

C. A. F. Rhys Davids.

The Principles of Sociology. An Analysis of the Phenomena of Association and of Social Organisation. By Franklin Henry Giddings, M.A., Professor of Sociology in Columbia University in the City of New York. New York and London: Macmillan & Co., 1896. Pp. 476.

The writer of this volume believes that the time has not yet arrived for the production of an exhaustive treatise on Sociology. Still he considers that Sociology possesses certain principles, and that the time has come for combining these principles into a coherent theory. He is an opponent of those who have translated sociological laws into biological phraseology. According to his view Sociology is a psychological science, and his work chiefly draws attention to the psychic aspects of social phenomena. His explanation of the origin of social organisation is that it arises from a state of consciousness in which any being whether low or high in the scale of life recognises another conscious being as of like kind with itself. "The consciousness of kind marks off the animate from the inanimate. Within the wide class of the animate it marks off species and races; within the race it marks off ethnical and political groups and social classes. It is therefore the psychological ground of social groupings and distinctions. The consciousness of kind again continually moves men to act as they would not if they were governed altogether by considerations of utility, fear, loyalty, or reverence. It continually prevents the theoretically perfect working of economic, legal, political and religious motives. It is therefore the cause of the distinctively social phenomena of communities." As a longer notice will follow we shall not at present discuss in detail Mr. Giddings's theory of the part played by the "consciousness of kind" in the organisation of social life. It is unquestionably a most important factor. But perhaps Mr. Giddings does not allow quite enough to other factors, in determining the structure and development of society. The economic factor acts as powerfully on social organisation as the consciousness of kind. Many of Mr. Giddings's ideas have already appeared in various periodicals, but they are well worth reading in a connected form and as an organic whole.

The Biological Problem of To-Day. Preformation or Epigenesis? The Basis of a Theory of Organic Development. By Professor Dr. Oscar Hertwig. Authorised Translation by P. C. Mitchell, M.A., with an Introduction by the Translator and a Glossary of the Technical Terms. London: W. Heinemann, 1896. Pp. 140.

This book contains a very clear and convincing criticism of Weismann's Preformation Theory of embryonic development and an excellent exposition of the author's own doctrine of Epigenesis. The translation reads extremely well. We can strongly commend the work to the reader who is interested in biological problems from a philosophical point of view.

Studies from the Yale Psychological Laboratory. Edited by E. W. Scripture. Vol. iii. 1895.

C. E. Seashore: "Measurements of Illusions and Hallucinations in Normal Life". This paper commences with a quantitative investigation of the illusion described by Müller and Schumann showing the influence of vision on the perception of weight. The author determined the degrees of the illusion when the estimation of size depended on direct and indirect vision, on visual memory, and on touch and muscle sense. The part played by expectant attention on the production of hallucinations of various senses was also investigated. In numerous subjects definite hallucinatory sensations of low intensity were obtained by suggestion.

J. M. Moore: "Studies of Fatigue". The influence of fatigue on binocular and monocular perception of depth and on the rapidity of voluntary movements. In monocular estimation fatigue induces symptoms similar to those occurring with binocular estimation and apparently referable to fatigue of accommodation.

Edward M. Weyer: "Some Experiments on the Reaction-time of a Dog". Found time between electrical stimulation of forefoot and its withdrawal, 896 σ. Attempt to measure discriminative and choice time failed.

E. W. Scripture: "Some New Apparatus". Describes a pendulum chronoscope, rotating wheel with speed indicator, some new keys, and a device for reducing currents of high voltage for laboratory purposes.

Experience: a Chapter of Prolegomena. By the Rev. Wilfrid Richmond. London: Swan Sonnenschein & Co., Limited, 1896. Pp. iii., 64.

In the first section of this little book the author attempts to establish the validity of the testimony of experience in face of the generally prevalent Agnostic theory that we cannot know. This disbelief, he finds, is grounded in the Lockeian theory of knowledge, and is confirmed by Kant's treatment of the subject. Neither Locke nor Kant went behind self-consciousness to the more fundamental and simpler state of consciousness in which knowledge really arises. This state of consciousness is here called "Feeling," and is said to stand in the same relation alike to intellect, to emotion, and to will. Language can describe but not express it. It precedes and conditions the correlation of subject and object in self-conscious perception, "but there is no 'I' in it". "The feeling as felt is neither subjective nor objective." The author thinks that with this view of the relation of sense to thought, "the world we know resumes its place as real," and "the presumption against the possibility of knowledge is removed". Two short sections, entitled respectively "Proof" and "Reality," follow, in the latter of which the author indicates his view that the answer to the question, "What is Reality?" is to be found in Personality.

B. E. M.

Hypnotism, Mesmerism, and the New Witchcraft. By Ernest Hart. Second edition, enlarged. New York: D. Appleton & Co., 1896. Pp. viii., 212.

In 1893 Mr. Hart put together certain papers, previously published in the *Nineteenth Century* and the *British Medical Journal*, with the view of "dissipating some popular errors and a good deal of pseudo-scientific superstition, superimposed on a slender basis of physiological and

pathological phenomena," and of "unmasking a prevalent system of imposture". The book was so well received that a second edition is now called for. The author has added a note upon the hypnotism of 'Trilby,' and a chapter entitled 'The Eternal Gullible,' in which he narrates the confessions of a professional 'hypnotist'. His preface takes the extremist view that 'hypnotism, when it is not a pernicious fraud, is a mere futility': but it is only fair to add that this extreme attitude is not maintained throughout the work. Thus we read (p. 134) that hypnosis is "a subjective phenomenon of great interest, and of some complexity".

The effect of the book cannot but be wholesome. It stands with Lehmann's work upon short-distance telepathy, and the recent study of double personality made by Miss Stein and Mr. Solomons, as an effective protest against current occultism.

The Evolution of Bird Song, with Observations on the Influence of Heredity and Imitation. By C. A. Witchell. London: A. & C. Black, 1896. Pp. x., 253.

Though written from the biological standpoint, this little book is a welcome contribution to our knowledge of avian psychology. The author's observation is accurate and his style clear. The ten chapters discuss the origin of the voice, alarm notes, the influence of combat, the call note, the simplest songs, the influence of sex, age, weather, etc., upon singing, heredity as affecting the permanence of bird cries, variation in bird voices, the influence of imitation on bird song, and the music of bird singing.

Lectures on Human and Animal Psychology. By W. Wundt. Translated by J. E. Creighton and E. B. Titchener. Second edition, revised. London: Swan Sonnenschein & Co., Limited, 1896. Pp. x., 459.

The text of this edition differs in no essential respect from that of the first. Minor changes have been made throughout the book: a long passage in the section on the Development of the Intellectual Functions —one of the most difficult in the work—has been rewritten (pp. 315, 316) so as to bring the connexion of the author's thought into clearer light; and a five-page index of names and subjects has been added.

Fear. By A. Mosso. Translated from the fifth Italian edition by E. Lough and F. Kiesow. London, New York, and Bombay: Longmans, Green & Co., 1896. Pp. 278.

Professor Mosso has attained to high eminence in physiology, and upon the whole has deserved well of experimental psychology,—despite the fact that his instruments are more apt to set problems than to solve them. His book on *Fear*, which has already seen several editions in a French version, is of an extremely popular type: observation and criticism are sound as far as they go, but are interspersed with an infinite deal of emotional 'padding'.

Dr. and Mrs. Kiesow have produced an accurate, and in the main readable, translation. As the popular character of the book will probably ensure it another edition, it may be worth while to note a few blemishes which can easily be removed by the translators. The reviewer has found idiomatic expressions on pp. 32, 40, 50, 85, 93, 125, 139, 149, 176, 181, 188. The 'last year' of p. 69 should be changed. Minor slips or misprints appear on pp. 51, 75, 163, 199, 200, 210, 215, 229, 266. 'Meynart' and 'Duchenne de Boulogne' are unfamiliar personages.

La Théorie Platonicienne des sciences. Par Elie Halévy. Paris : Félix Alcan, 1896. London : Williams & Norgate. Pp. xl., 378.

The object of this book, as defined by the author, is "en etudiant la théorie platonicienne des sciences, tenter un essai de solution des contradictions platoniciennes". M. Halévy holds that Plato's apparent inconsistencies flow from the antithesis which we find in his writings between Critical and Constructive Dialectic, and that this antithesis is itself apparent rather than real. He endeavours to establish his theory by a systematic interpretation of the dialogues, in the course of which many of the difficulties in Plato's metaphysical doctrine are discussed, and a tolerably complete system of philosophy is expounded.

The author will not allow that the critical or negative dialogues are necessarily earlier than the constructive. On the contrary, his exposition of critical, or, as he calls it, regressive dialectic, draws more largely from dialogues, which are now generally regarded as late, such as the *Sophist*, *Theætetus*, and *Philebus*, than from the so-called Socratic dialogues. This is in harmony with his general conception of Plato's purpose, which is that Plato used regressive dialectic to sift notions, to disabuse the mind of the false persuasion of knowledge, and to lead the pupil up to the height from which he might begin to see the reality of things by the aid of progressive dialectic. Thus far, M. Halévy's distinction is like the intellectual ascent and descent of book vi. of the *Republic*.

The work itself, exclusive of the Introduction, falls into two divisions, concerned respectively with the two kinds of Dialectic. The results of the Regressive variety are shown so far as concerns Body and Soul, the State and the Individual, Practice and Theory, and the Problem of Participation. It need hardly be said that many of the author's statements are open to question ; for nothing can be predicated about Plato which will not arouse opposition. M. Halévy's general attitude may be gathered from his treatment of the relation between Soul and Body. "Le corps n'est qu'une façon de parler de l'âme." It may perhaps be doubted whether much is to be gained for the elucidation of Plato by using in so difficult matter a "façon de parler," which Plato did not *himself* see fit to employ. But if it is the framing of a philosophical system at which we are aiming, and not simply the explanation of Plato, such a procedure is legitimate enough, and the readiness with which it commands approval is an extraordinary proof of the flexibility of Plato's genius. "Hic liber est in quo quærit sua dogmata quisque, Invenit et pariter dogmata quisque sua." But to return. As the Body, so far as it exists, exists for the sake of the Soul, so, in a certain sense, the State exists for the Individual : "la science de la répression pénale n'est que par et pour la science de l'enseignement". Here, as it seems to the present reviewer, M. Halévy stands on surer ground, and also when he argues that Philosophic Education aims at implanting scientific virtue in contrast to social or psychological virtue, as depicted in books ii. to iv. of the *Republic*. The discussion of the problem of participation centres chiefly on the *Parmenides*, which is "à la fois le dernier terme de la dialectique régressive et la préparation de ce second moment de la philosophie platonicienne, où la dialectique systématise et construit". This part of M. Halévy's treatise appears to us particularly thorough and well thought out; but whether it will carry conviction to Platonic students, is another question.

The second part of the work before us takes as its point of departure νόησις or φρόνησις "qui consiste dans l'accord interne, ὁμόνοια, et dans

la réflexion sur soi, *σωφροσύνη*". No justification is given for equating two ideas so distinct in Plato as *νόησις* and *φρόνησις*, but M. Halévy probably means *νόησις*. Thought has three necessary forms, Being, Motion, Rest, to which are added Identity and Difference, making the five *μέγιστα γένη* which we find in the *Sophist*. The next stage in the evolution of things from *νοῦς* is number. In his account of the *γένεσις ἀριθμοῦ*, M. Halévy appears to us ill-advised when he interprets the creation of the soul in the *Timæus* as a symbolical account of the evolution or creation—call it what you will—of number. That Xenocrates should have taken this view was natural enough, for he explained Soul as a self-moving number, which Plato never did, so far as we know. Soul, as Plutarch observes (*De animæ procreatione*, 1013 C), was regarded by Plato as a *φύσις αὐτοκίνητος*, the fount and source of movement, whose essence was ordered by numerical ratios, from which however it is itself distinct. Nor can such an interpretation be maintained without doing violence to the language of the *Timæus* (35 A). Next in order of evolution come the mathematical relations, after which the sciences connected with Motion are discussed. Finally, the science of politics is reviewed in the light of regressive dialectic.

The work is vigorously written, and will be found interesting by those who adhere to the allegorical method of interpreting Plato. To us it appears far abler than the majority of such works. M. Halévy does not always, so we think, escape the besetting dangers of the allegorisers, looseness of interpretation alternating with over-subtlety where a point is to be gained. One striking instance will be found on p. 296, where *μηχανᾶσθαι* is said to mean "produire une illusion par des procédés méthodiques," and *σῶμα ἐμηχανήσαντο* in *Tim.*, 45 B is accordingly taken as indicating that "un corps n'est donc, en dernière analyse, qu' une apparence produit d'une *machination* ou d'une illusion divine". Unhappily for this theory *ψυχὴν—ἐμηχανήσατο* is said in 34 C: are we then to call *Soul* a mere illusion too? The fact is, so at least we think, that Plato will never be satisfactorily interpreted until we are content to explain each dialogue in the first instance by itself alone, and leave allegory alone till this has been successfully achieved. The scholarly interpretation of Plato's language is an indispensable preliminary to any sound theory of his philosophy; and when this result is reached, we shall perhaps need allegory much less than now.

J. ADAM

Essai sur l'Art contemporain. Par H. FIERENS-GEVAERT. Paris: Félix Alcan, 1897. Pp. x., 174.

This essay, or rather these essays, dealing with various æsthetic subjects, are knit together by a moral intention increasingly insistent. The author dips into the psychology of artistic production and of critical interpretation, and in 'L'Évolution de l'Art' makes an interesting contribution to the history of mediæval art. But his explicit object throughout is to arouse those of the younger generation who are casting about for an outlet to artistic proclivities, or who are already launched, to a sense of the moral sublimity of the mission of art, and to guide them in the arduous and baffling task of self-knowledge and self-culture. In the chapter, for instance, on the *rôle de la Volonté dans la création artistique*, the treatment is moral throughout, the artist being exhorted to resist giving way to *aboulie* and the delusion that he can do no good work save in the *minutes bénies* when the fit is on him, to guard well against the temptations of sense, since every feeling is a volition in the germ, and to obey "the laws of the

investigation of truth" as strictly as the man of science and the philosopher. For the creative artist, if he be of those whose works are not let die, is the bearer of an "instinct" which is the mysterious x equating his solidarity with the aspirations of the past and present, and his individual spontaneity; and in giving play to that instinct he has, not in spite of, but by way of all that is most individual in that spontaneity, to make felt "the mighty fasces of myriad human wills". Two chapters on the critical gift and its utility are not among the least interesting in the book. If the artist represents nature, the critic re-represents it in interpreting the work of art, and should be therefore as sympathetically disposed in approaching his material as is the efficient artist in his own sphere. He should combine the artist's sensitivity with the analytic and inductive insight of the philosopher. In the final chapter on the future of plastic art, M. Fierens-Gevaert, while believing that inasmuch as art is a perennial need in social life, the pursuit of it will live, is not encouraged by the prospects of highest art-production under democracy and socialism. Its first fruits lead us to look for a revival only in the minor arts of decoration. It may, however, strike the reader that he, like many others, has but bowled over the straw man he or the *pygméen* thinkers he quotes from, whoever these may be, have set up. Wagner, Millet, and Whitman, as Edward Carpenter points out (*Progressive Review*, i., 1), were the harbingers in art of the tendencies he is apprehensive about, and they constitute not a poor beginning. His final exordium is on behalf of a revival of architecture, and whereas his opening chapter pleads, as against the tendency to *rapprocher* and combine and treat alike the different arts, that "the splendour of their individuality" should be respected, he ends by urging the plastic artist to apply his finer vision to architecture, and the architect to revert, as of old, to Nature. Possibly both must wait till their creations can become the expression of a worthier and humaner social and economic system.

Finally, with the more intensive and the more catholic historical knowledge of to-day such sentences as this should be impossible: "La société antique n'a pas connu la charité, l'amour des petits; donc nous différons des Grecs et des Romains".

C. A. F. Rhys Davids.

Theorie Nouvelle de la Vie. Par Félix le Dantec, Ancien élève de l'École normale supérieure, Docteur ès sciences. Paris: Félix Alcan, 1896. Pp. 320.

The main novelty in M. Dantec's theory is the emphasis laid on assimilation as the fundamental and essential vital process. All other functioning is merely the concomitant of the building up of living substance by a system of chemical interactions. Dissimilation is connected not with vital activity, but with its absence. The author supports his theory with great vigour, and he shows exceptional clearness of thought and exposition. He begins with a careful study of the life of unicellular organisms, or "complete plastids," as he calls them. Such plastids do not depend for their life and growth on chemical interaction with other plastids. In multicellular organisms the reverse is the case. The book is certainly worth reading, though the author seems somewhat hasty and dogmatic in laying down the law on a subject which is so enormously complex and so enveloped in mystery. In particular, he does not seem to see that the more completely mechanical is the explanation of vital process, in the abstract, the more urgent is the need of a teleological view of its actual concrete development.

Précis d'Histoire de la Philosophie. Par A. Penjon. Paris: Paul Delaplane, 1896. Pp. vii., 381.

The author claims for this book that it will be found readable by those who are quite ignorant of philosophy. He has given within a very brief space a lucid and attractive exposition of the doctrines of leading thinkers from Thales to Kant, together with some indication of the nature of post-Kantian developments. The general reader will find the book useful, and it may also serve as a text-book for a course of lectures given to elementary students. It must be said, however, that at some points M. Penjon's exposition and criticism are misleading. The short account of Hegel is almost pure fiction. Plato is represented as a poet rather than as a philosopher. According to M. Penjon the logical outcome of the Kantian system is subjective idealism; to say this is to ignore the central point of Kant's teaching, the doctrine that thought essentially consists in objective reference; it would be truer to say that the logical outcome of the Kantian system is the destruction of subjective idealism.

Eine Trias von Willensmetaphysikern. Von Dr. Phil. Susanna Rubinstein. Leipzig: Alexander Edelmann, 1896. Pp. 95.

This essay consists of three parts. The first sketches in broad outline the most salient features of Edward von Hartmann's Ethico-Metaphysical system embodied in his *Philosophie des Unbewussten*. The second and third present the opinions of his two principal contemporaries, Mainländer and Bahnsen, on the same subject. The doctrines of von Hartmann, says Dr. Rubinstein, are a fusion of the conceptions characteristic of Schopenhauer and Hegel respectively, the *will* and the *idea* (p. 4). Von Hartmann postulates a primordial unconscious potentiality out of which has emerged consciousness and will. The will is continually striving to satisfy the representations of consciousness, and being perpetually baffled in this attempt there ensues an ever present state of pain, so that consciousness is always an apprehension of pain. *Pain* and *will* are the only *two* modes of reality.

On page 47 Dr. Rubinstein sums up the pessimismus of Hartmann as an example of the irony of intellectual culture, presenting as it does the Universe as the theatre of infinite misery designed only to end in annihilation. Mainländer, merchant, poet, soldier, philosopher, was born at Offenbach, Frankfort, with the family name of Batz, in 1841, and died, 1876, apparently by his own hand. Mainländer seems to have exercised his dialectical skill chiefly in the attempt to reconcile the will of nature, or the cosmic process, with the will of the individual agent, or human volition,—the fatalism in the Universe with the autonomy of the monad, or *henad*, as it seems to be termed in modern German Metaphysic (p. 82). Bahnsen's chief work, *Realdialektik*, treats of the contradiction between *knowing* and *being*;—his speculations are completely suffused with the Hegelian logic, with its sterile antithesis of affirmation and negation. Hegel's logic and Schopenhauer's pessimism are not stimulating reading at this end of the nineteenth century;—one wonders how they have had such a long life, and so many able expanders and expounders.

T. W. Levin.

Grundriss der Geschichte der Philosophie, zum Selbststudium und fur Vorlesungen. Von Dr. JOHANNES REHMKE, Professor der Philosophie zu Greifswald. Berlin: Carl Duncker, 1896. London: Williams & Norgate. Pp. 308.

Dr. Rehmke's *Outlines* furnish a concise, and at the same time wonderfully clear, presentation of the history of philosophy, ancient and modern. He has been able, more effectively than the average historian, to efface his own personality, and, in sketching the growth of philosophical doctrine, to avoid anachronous or irrelevant criticisms. His view of philosophy is expressed in a single page of Introduction,—as the Universal or Fundamental Science, whose subject is the "world in general," and whose aim is to determine the significance of "reality as a whole in its universal characteristics". With so general a view no fault can be found, nor does it appear to exclude from the history of philosophy any of the problems or authors usually suggested by the name. As is natural, Kant is accorded more space than any other philosopher, and the treatment of him is both full and just. Is it necessary, however, to use such a term as "*kriticistisch*"?

The exposition of the individual doctrines of each writer is systematic and clear, while the relations of successive thinkers to their predecessors are well brought out. English Philosophy of the seventeenth and eighteenth centuries receives very adequate treatment. History, however, does not go beyond Schopenhauer and Lotze. It is not biographical, and there are no references to particular passages of the works discussed, an omission which is due, probably, to consideration for the class of students for whom it is designed.

J. L. M.

Die Schöpfung des Menschen und seiner Ideale. Ein Versuch zur Versöhnung zwischen Religion und Wissenschaft. Von Dr. WILHELM HAACKE. London: Williams & Norgate, 1895. Pp. 484.

The development of human ideals is referred to the same fundamental tendency which, according to the author, governs biological development in general,—'the tendency to equilibrium'. All organisms tend to recover equilibrium when disturbed, and their whole development is in the direction of increased equilibrium. This is for the author equivalent to more perfect unification. On the biological side he takes great pains to explain and illustrate the general conception which forms for him the key to human life, and the reconciliation between science and religion. For him all nature is animated, and it is impossible to draw a sharply defined line between the mental characteristics of a highly developed human being and those of other organised or unorganised individuals. The ideal of a rock crystal is a certain material configuration, and the ethical ideal of a man is a certain line of conduct. The striving after the ideal is in both cases a tendency towards equilibrium. The book is suggestive.

La Filosofia Scientifica del Diritto in Inghilterra: Studio Storico-critico. Del Dott. GIACOMO LAVIOSA. Parte i.: *da Bacone a Hume.* Torino, 1897. Pp. 850.

Although professing to deal only with the philosophy of law this is in fact the first instalment of a complete history of moral philosophy in Great Britain, chiefly as represented by utilitarian thinkers, but by no means to the exclusion of other schools. The author, who is a professor

of jurisprudence in the University of Parma, belongs to what is called in Italy the Positivist direction; that is to say, he accepts as much of Auguste Comte's system as can be brought into harmony with the modern phenomenist and evolutionary school principally represented by Mr. Spencer. Professor Laviosa is an enthusiastic admirer of things English. "The English nation," he says, "is now at the head of the civilised world. It is the strongest, the most enterprising, the wisest, the most cultivated, the most virtuous, the richest, the most brilliant, and the soundest in the sciences and in useful inventions" (p. 528). Even the severest philosophical critic may confess to a feeling of gratification when he comes across such expressions in the pages of a foreign historian, and of one, moreover, not in the least given to rhetorical exaggerations. But Professor Laviosa has merits which speak for themselves without needing the advocacy of the patriotic bias. His book, so far as it goes, is a thoroughly good piece of work. He seems to have the whole literature of the subject—not only English, but German, French, and of course Italian—at his fingers' ends. His analyses of the various systems passed in review are copious, lucid, and discriminating. As might be expected, the greater part of his space is devoted to Hobbes, Locke, and Hume; but justice is done to moralists with whom he is much less in sympathy, such as Butler on the one side and Mandeville on the other. The many excellent monographs and general or special histories that have appeared in recent years have indeed furnished him with ample materials for his construction; and a well-read English student will perhaps find nothing that is quite new in these pages. But we must remember that the book is destined in the first instance for an Italian public; and neither the Italian nor any other continental language, so far as I know, can show anything on the same subject to be compared with it for value.

Perhaps that part of the work which lays itself most open to criticism is the Introduction. Professor Laviosa attributes far too much importance to Bacon and to the Baconian method. It may be doubted whether the great Chancellor did as much for physical science as Mrs. Somerville. For moral science he did absolutely nothing. The practical and empirical tendencies of English thought were inherited from a much earlier period than his, as has been shown by Croom Robertson, whose admirable essay on "The English Mind" seems to have escaped even our author's wide reading. And the leading ideas of English ethics are derived not from Bacon but from Greco-Roman philosophy. Neither can the distinction, affirmed by the Introduction, between two streams of tendency, the one English and scientific, the other continental and metaphysical, be maintained in its full rigour, although of course it contains an element of truth. Among the systematic moralists here discussed Hobbes stands first, and the foreign filiation of Hobbes has been placed beyond a doubt by Tönnies, confirmed on this point by the supreme authority of Croom Robertson. And whether scientific or not, the method of the *Leviathan* differs as profoundly from the inductive method of Bacon on the one side as it differs on the other from the metaphysical opportunism of Locke. Indeed Professor Laviosa, who greatly prefers Hobbes as a moralist to Locke, himself draws attention to the opposition between their points of departure no less than between their conclusions. But he seems to ignore the significant circumstance that Hobbes no less than Locke was simply seeking a speculative justification for political preferences dictated by personal or party considerations—a procedure which he very justly stigmatises in his Introduction as a standing mark of the whole metaphysical tradition (p. 40). And the fact that this bias is shared by moralists of

every school seems to detract enormously from the value of ethical philosophy as a basis for legislation and social reform. When it comes to practice, the same principles apparently lead to opposite results, and the same results are, with an equal show of reason, deduced from opposite principles. Hume is as conservative as Hegel, Green as liberal as Mill. Our author himself, in that glowing panegyric on the English people to which I have already referred, attributes its excellences to the possession of political liberty—a liberty which we should not now be enjoying if his two great favourites, Bacon and Hobbes, had shaped the course of history. Another contrast insisted on by Professor Laviosa as distinguishing the Baconian from the Cartesian tradition, the English from the continental school of thought, is its monism (p. 10). But the dualism of Descartes was overcome by his immediate successor, Spinoza, while it reappears in Locke, whose ethics, like Butler's, have a large theological infusion. Moreover, if geographical considerations are to be brought into philosophy, a word might have been said about the characteristic differences between the English and Scottish schools, differences which are absolutely ignored in the present volume, and which no doubt look smaller to an observer at Parma than they look to us.

It is unfortunate that so good a book as this should be disfigured by so many misprints. As might be expected, these occur mostly in English names and quotations, but the Italian text is not immaculate. For the rest Professor Laviosa strikes me as a very accurate writer. I have only noticed two unimportant slips. Algernon Sidney is mentioned as writing against the absolutist theory in 1698—fifteen years after his execution (p. 279). It should have been said that his book was first published at that date. And Locke is praised for having formulated a certain economical proposition "a century and a half before Adam Smith" (p. 470), when half that figure would have been much nearer the mark.

ALFRED W. BENN.

Sintesi Cosmica, ossia Dimostrazione dell' Unità psico-fisica della Natura e del suo Oggetto in rapporto alle Relazioni che l'Uomo ha con sè, col Prossimo e col Mondo. Introduzione allo Studio della Rivelazione dell' Ente e Regno suo. Acireale, 1896. Pp. 88.

This little work, which is an introduction to the author's larger treatise, *The Revelation of the Ens*, starts with the assumption, among others, that the efficient or creative cause of the world is the Ens or Being in itself, and that this Being is in act (*in atto*), and thus is in perpetual activity. This fundamental cognition is to create a new aspect of the world and of science, and throw the light of a ray divine over the last hour of the troubled night of the human mind. And so on in somewhat over-condensed review of many things, from the "essential cyclicity" of elemental matter to the Abyssinian war and the Röntgen rays. The argument seems—it may be not through the fault of the writer—to fail in cogency and to suffer by a straining after simplicity in generalisation, an end that is of course always attainable when many data are viewed as negligible quantities. "Marvellous simplicity of truth and nature!"—for instance—"the whole universe is explicable solely by the law of the *individuazione dell' atto e dell' fatto*". The book ends with a challenge to those who, after reading it, would accuse metaphysical speculation of "nullity and impotence". It is a pity that the enemy should be given cause to blaspheme.

De Platonicis Mythis, thesim Facultati litterarum Parisiensi proponebat Ludovicus Couturat, Scholæ Normalis olim alumnus. Parisiis edebat Félix Alcan bibliopola MDCCCXCVI. Pp. 118.

In his thesis M. Couturat offers, as a means towards understanding Plato, an inquiry into the interpretation of the Platonic myths. This in turn depends on the answer to the question, How is the mythical part of Plato to be distinguished from the non-mythical? The first book of the thesis is occupied with the latter inquiry, the second with the former. In an introduction Plato's use of the word μῦθος is gathered from the various passages in which it occurs.

The result of the first book is to define 'mythical' in such a way that not only the obvious myths, but also the allegories, and even whole dialogues, are included under the term. To give an example of the extreme view maintained in the thesis: The *Republic*, which depends on the analogy between man and the state, is regarded as mythical, *Respublica* tota nihil nisi magna et mera allegoria esse videtur, quod etiam ex indiciis multis concludere licet, quæ mythum plane denuntiant (p. 49). One of these indicia is the reference to the goddess at the beginning of the dialogue (προσευξάμενός τε τῇ θεῷ καὶ ἅμα τὴν ἑορτὴν βουλόμενος θεάσασθαι, 327 A).

In reality the subject of the second book is not so much the interpretation of the Platonic myths as a discussion whether the leading Platonic doctrines are mythical or not. And, with the exception of the doctrine of ideas, they are all condemned: the doctrine of the gods, the doctrine of the genesis of the κόσμος, the doctrine of the soul, reminiscence, immortality, and the future life. This conclusion seems too sweeping. The contradictions in Plato cannot be resolved into mere differences in the mythical expression of his real view. The doctrine of reminiscence, for instance, must be regarded as a vital part of the theory of ideas, or at least, if it is to be regarded as a myth, it is a myth whose ὑπόνοια was not clearly distinguished by Plato himself from its expression.

Enough perhaps has been said to indicate that M. Couturat's thesis is to be regarded rather as an academic exercise than as an important contribution to the study of Plato. At the same time it is not without interest from the clearness of the exposition and the simplicity of the view maintained.

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H. Ellis and J. A. Symonds, *Das Konträre Geschlechtsgefühl*, Deutsche Original-Ausgabe (Bibliothek für Socialwissenschaft, 7. Band), Leipzig, Georg H. Wigand's Verlag, 1896, pp. xi., 308.

R. Dodge, *Die motorischen Wortvorstellungen*, London, Williams & Norgate, 1896, pp. 78.

M. Wentscher, *Über physische und psychische Kausalität und das Prinzip des psycho-physischen Parallelismus*, London, Williams & Norgate, 1896, pp. 122.

C. Cantoni, *Corso Elementare di Filosofia*, Volume Terzo, *Storia Compendiata della Filosofia*, Quinta Edizione, Milano, Ulrico Hoepli, 1897, pp. xv., 517.

S. Fragapane, *Il Problema delle Origini del Diritto*, Roma, Ermanno Loescher & Co., 1896, London, Williams & Norgate, pp. 296.

G. Mantovani, *Psicologia Fisiologica*, Milano, Ulrico Hoepli, 1896, pp. viii., 165.

IX.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. v., No. 4. **H. Calderwood.** 'The Relation of Intuitionism to the Doctrine of Self-Realisation.' [Current intuitionism as a theory of our knowledge of the moral law, which includes self-realisation as an end; Sidgwick's criticism. Self-realisation as ethics of the end: its monistic or idealistic form (Green); regarded as dependent upon exercise of human intelligence (Green, Dewey, Muirhead, etc.). Self-realisation implies *knowledge* of the end; its weakness lies in the fact that it offers an incomplete theory of this, and so gets into difficulties as to the end itself.] **J. H. Hyslop.** 'The Fourth Dimension of Space.' [There are 'logical principles, which not only vitiate the argument for the existence, or even possibility, of this dimension, but make the talk about it mere child's-play'. 'The logical terms of the problem take us wholly beyond the limits of geometry and mathematics.'] **A. Llano.** 'Morality the Last of Dogmas.' ['In the course of time, all moral feelings . . . will disappear from the human mind and cease to have any influence upon the further development of the race.' In other words, the evolution (or dissolution) 'of morality is from *duty* towards *right*, the former diminishing as the latter increases'. Psychological reasons for this view; indications of its correctness in present religious and political tolerance.] Discussions. **J. E. Russell.** 'Self-consciousness, social consciousness and nature.' [Criticism of Royce's proofs that 'there is other human experience than my own,' and that 'nature is other reality than human experience'.] **R. B. Johnson.** 'Mr. Balfour and Transcendental Idealism.' [Criticism of Daniels' paper, Vol. v., No. 1.] **M. Washburn.** 'The Intensive Statement of Particular and Negative Propositions.' [Jevons' equivalent proposition in intension for a universal negative may in some cases be equivalent to a particular affirmative instead. It is useless to try and find an intensive equivalent for the particular proposition.] Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

Vol. v., No. 5. **O. Pfleiderer.** 'Is Morality without Religion Possible and Desirable?' [Consideration of arguments brought by moralists against a religious sanction for ethics, and by representatives of religion against a non-religious ethics. Those who demand 'a truly ideal morality and a truly ethical community must labour, not for a morality outside of the Church, but for a reformation within the Church'.] **J. C. Murray.** 'The Idealism of Spinoza.' [A careful analysis of the doctrine of the *Ethics*, which the writer takes to be 'that the universe, under all its varied phases, is essentially an evolution of intelligence'.] **H. Griffing.** 'On the Relations of Psychology to Other Sciences.' [Examines the relations of psychology, from the *a posteriori* and *a priori* standpoints, to other sciences, especially physics and physiology. Concludes, not very convincingly, that problems and methods are often the same for all.] **S. E. Mezes.** 'The Cause and Function of Conscience.' [The psychological cause of conscience (= every approval and disapproval) is voluntary action, apprehended as such. Hence the variety and variations of consciences. With the appearance of voluntary action comes the jeopardising of the self-sacrificing race-preserving instincts: it is the function of conscience to act as counter-check upon apprehended volun-

tary action.] Reviews of Books. Summaries of Articles. Notices of New Books.

Reprint, Sept., 1896. Supplement I., June, 1895. Supplement II., June, 1896. [These two Supplements, which are separately purchasable, contain the first part of Dr. **E. Adickes'** 'Bibliography of Writings by and on Kant, which have appeared in Germany up to the end of 1887,' bringing it down to the conclusion of the year 1804. There are 571 pp. of continuous bibliography, 23 pp. of additions and corrections, and 27 pp. of indices. The work includes elaborate essays on the philosophies of Maimon, Schulze, Beck, Schiller, Tiedemann, Fichte, Pölitz, Schelling, Bouterwek, Herder, Bardili, Krug, etc., etc. The author is to be sincerely congratulated on the completion of this portion of his task, and the Editors of the *Review* have earned the lasting gratitude of all students of philosophy. A word of praise should also be accorded to the anonymous translator, who has done his work excellently. It is to be hoped that we may soon see the first instalment of part ii., which should be even more valuable than part i.]

Psychological Review. Vol. iii., No. 4. **J. Dewey.** 'The Reflex Arc Concept in Psychology.' [The idea of the reflex arc is a fairly satisfactory general working hypothesis. But, as currently employed, it gives us an arc, without indicating the circuit of which it is the arc: co-ordination, the regarding of genesis and function, is necessary. 'It is the circuit within which fall distinctions of stimulus and response as functional phases of its own mediation or completion.'] Studies from the Psychological Laboratory of the University of Chicago. (iii.): **J. R. Angell** and **S. F. McLennan.** 'The Organic Effects of Agreeable and Disagreeable Stimuli.' [A contribution to the study of the feelings by the physiological method. Gives no reference at all to previous work, and thus entails needless labour upon the reader.] (iv.): **A. Tanner** and **K. Anderson.** 'Simultaneous Sense Stimulations.' [In the main, a repetition of Urbantschitsch's work. A useful paper, which would have been much improved by detailed references and a better method of presentation.] **J. Kodis.** 'Some Remarks upon Apperception.' [The term has been employed to mean an event which imparts clearness to representations, reflective knowledge, and an act of knowledge produced by the impact of two groups of representations. The second meaning (Kant) is the best.] **R. H. Stetson.** 'Types of Imagination.' [Examination by questionnaire of 100 college students. Classification; general remarks.] **H. Griffing.** 'On Individual Sensibility to Pain.' [Pain sensibility to sensory stimulation varies with the conditions of stimulation. There probably is such a thing as 'general sensibility to pain'.] **E. W. Scripture.** 'The Third Year at the Yale Laboratory.' [*Cf.* vol. ii., p. 379.] Discussion and Reports. **A. H. Lloyd.** 'A Psychological Interpretation of Certain Doctrines in Formal Logic.' [Formal copula, concrete and quantified predicate, abstraction of time, definition, rules of distribution.] **M. W. Calkins** and **J. Jastrow.** 'Community of Ideas of Men and Women.' [Report of new experiments at Wellesley; reply to criticisms of Jastrow and Ellis; remarks by Jastrow. Miss Calkins concludes, seemingly with right, that 'the essential difference between masculine and feminine mind' is untouched by Jastrow's method.] Psychological Literature. New Books. Notes.

American Journal of Psychology. Vol. vii., No. 4. **T. L. Smith.** 'On Muscular Memory.' [An attempt to estimate the part played in normal memories by the 'muscular' or 'motor' element, *i.e.*, by the muscle-joint-sinew sensation complex. Two points were investigated: the influence of memories of throat, tongue, and lip movements upon the recall of syllables; and the 'muscular' memory of hand movements.

Results too detailed for summary.] **E. H. Lindley.** 'A Preliminary Study of some of the Motor Phenomena of Mental Effort.' [Questionnaire returns. Relation of automatisms to muscle-groups, sex, age, posture, etc. Conclusion: "Many automatisms represent processes for the production and maintenance of central nervous energy, as well as for the protection of the state of attention. . . . Others are the result of defective control, and consequently represent serious leakages of energy. Many of the postures suggest reversion to fœtal postures and also to primitive attitudes."] **T. R. Robinson.** 'Light Intensity and Depth Perception.' [With high intensities, the light required for the second eye, if the stereoscopic effect is to ensue, is very small. There is a wide range between the lowest point of combination of objects and complete stereoscopy. Suggested explanation of Fechner's paradox.] **F. Drew.** 'Attention: Experimental and Critical.' [Experiments, with and without attention, upon reaction-time, association, least noticeable interval: effect of attention differs, according to the conditions of the experiment. Brief historical sketch of some attention literature. Plea for the use of the unconscious in psychology. Theory of attention: "Attention, as a psychic fact, follows and depends on the muscle tension, and we do not attend to an idea until after the idea-stimulus has run its course. The links that connect our ideas and bring them into the field of consciousness are these kinæsthetic sensations, and our personal power is shown in rejecting some and holding to others. As our bodies could go nowhere save for bone resistance, so our minds' endeavours would be fruitless without muscle objectification."] Bibliography. **E. C. Sanford.** 'Note on the Foregoing.' Psychological Literature. Notes and News.

Revue Philosophique. No. 7. July, 1896. **L. Dauriac.** 'Études sur la psychologie du musicien. VI. Le plaisir et l'émotion musicale.' [Emphasises the direct physiological effect of music on the organism as the essential source of the pleasure it gives.] **G. Dumas.** 'La joie et la tristesse.' [Considers the physiological conditions of grief, and especially the state of the circulation.] **Münz.** 'La logique de l'enfant.' [Notes among other points that the acquisition of language by the child is, in the first instance, spontaneous, and not due to imitation.] Revue générale: Travaux de psycho-physique. Analyses et comptes rendus, etc.

No. 8. August. **G. Dumas.** 'Recherches expérimentales sur la joie et la tristesse.' III. Conclusions. [The emotion is always the ultimate phenomenon which is preceded and determined by changes in the circulation, and these changes are linked by intermediate processes with changes in the mental state. When the origin of joy or grief is purely organic, ideas are secondary facts, serving only to explain to the subject his emotional state. When the primary source of joy or grief is mental, the idea is a primary fact, and the emotion is referred to its true cause. In reply to the question how ideas give rise to the vaso-motor changes which produce joy and grief, Dumas falls back on the distinction between the free and impeded flow of cerebro-mental activity. The thesis of Lange is supported by new observations and experiments.] **Abbé Jules Martin.** 'La métaphysique et la science.' **L. Dauriac.** 'Études sur la psychologie du musicien.' Revue Critique. **H. Lachelier.** 'La psychologie générale d'après Rehmke.'

No. 9. September. **A. Lalande.** 'De la fatalité.' [The question which has really interested mankind, is not that of free-will in the technical sense, but the struggle of self-determination against external conditions or "destiny".] **J. Soury.** 'La cécité corticale.' [Lesion of one part of the brain occasions functional disablement of other co-operating parts. This explains the peculiar features of cortical blindness as distinguished from blindness due to peripheral lesions.] **P.**

Tannery. 'Sur la période finale de la philosophie grecque.' [Emphasises the importance of the early Aristotelian commentators.]

Revue de Métaphysique et de Morale. 4e Année, No. 4. Juillet, 1896. Numéro spécialement consacré à Descartes. Consists of 'Essays on the Method, Metaphysics, Moral Doctrine, and Physics,' etc., of Descartes. **B. Gibson.** 'La géométrie de Descartes au point de vue de sa méthode.' [Exhibits the relationship of the 'Regulæ' to the Géométrie, and explains the application of the 'Method' to Geometry.] **J. Berthet.** 'La Méthode de Descartes avant la Discours.' [The 'enumeration' inculcated in the 'method' is not *inductive*, but strictly *deductive*. "M. Liard has rightly observed that Descartes' discovery consists less in the explanation of geometry by algebra, than in the explanation of algebra by geometry." Notices that Descartes had discovered his Method and his science before essaying ontological speculation: only later on he connected physics with God's existence, etc.] **P. Natorp.** 'Le développement de la pensée de Descartes depuis les "Regulæ" jusqu'aux Méditations.' [All Descartes' idealism proper is contained in the 'Method'. Afterwards, in his metaphysics, he becomes only a demi-idealist, reaching his gravest deviation from critical idealism when he makes the truth of intelligence rest on the 'Divine veracity'.] **A. Hannequin.** 'La Preuve ontologique Cartésienne défendue contre Leibniz.' [Leibniz charged Descartes with neglecting to show the 'possibility' of "the supremely perfect Being," thus rendering the proof of his existence null and void. Leibniz also charged Descartes with erroneously regarding existence as a perfection. Against these charges Hannequin defends Descartes.] **H. Schwarz.** 'Les Recherches de Descartes sur la connaissance du monde extérieur.' [The problem of the *origin* of the belief in the external world is *psychological*; that of its *veracity* is *metaphysical*. The differentiation of the former problem from the latter was completed by the speculations of Descartes, who, however, did not succeed in freeing himself from the psychology of the schools as he had freed himself from their metaphysics.] We can do no more than mention some of the essays which follow in this splendid Number of the *Revue*. **P. Tannery.** 'Descartes physicien.' **E. Boutroux.** 'Du rapport de la morale à la science dans la philosophie de Descartes.' **V. Brochard.** 'Le traité des Passions de Descartes et l'Éthique de Spinoza.' An article by Ch. Adam of great value to the student of Descartes concludes the Number, containing a list of all the philosopher's extant autographs, etc., with an account of the places in which they are now preserved.

Revue Néo-Scolastique. No. 11. **D. Mercier** resumes the criticism of the psychological system of Descartes, which he had commenced in the preceding Number. He now maintains that the fundamental defect of Descartes' system lay in this, that instead of regarding man as a *single* composite substance resulting from the substantial union of body and soul, Descartes regarded man as composed of two distinct substances, *complete in themselves*, the thinking soul and the extended body. In the succeeding Number of the *Revue*, M. Mercier will bring his study of Descartes' psychology to a conclusion. **P Mansion**, returning to his examination of the 'Principes de Métagéométrie ou de Géométrie Générale,' explains the nature of postulates v. and vi., proves the indemonstrable character of the postulates of Metageometry, and, comparing together Metageometry and Kantism, points out that Metageometry is radically opposed to the conception of space as a necessary *a priori* representation, and, by demonstrating the futility of what Lechalas has called Kant's 'Geometrical Imperative,' destroys one of the foundations of the *Kritik der reinen Vernunft*. In his treatise, 'De anima,' Aristotle discusses questions which are,

properly speaking, psychological. In nine *Opuscula*, which may be regarded as a complement to this treatise, he discusses questions of a psychologico-physiological character. Amongst these *Opuscula* is a treatise on dreams. In his article, 'Aristote et la psychologie physiologique du rêve,' **A. Thiery**, taking this treatise, which has been declared by Barthélémy St. Hilaire to contain the best explanation of dreams which has yet been suggested, as his basis, sets forth Aristotle's view of the nature of dreaming. In an article entitled 'Le Socialisme scientifique d'après le manifeste communiste,' **C. Van Overbergh,** after comparing the various older forms of Socialism with the so-called scientific Socialism as expounded in the 'Manifeste Communiste,' which was drawn up in 1848 by Marx and Engels at the request of the International Congress of the Ligue des Communistes, proceeds to state the general theory of scientific Socialism, and indicates what would result from an application of this theory to family life and religion.

Zeitschrift für Psychologie und Physiologie der Sinnesorgane. Bd. xi., Heft 2. **A. Meinong.** 'Ueber die Bedeutung des Weber'schen Gesetzes. Beiträge zur Psychologie des Vergleichens und Messens.' [I. Vom Grössengedanken und dessen Anwendungsgebiet. 1. Magnitudes always lie within a series, continuous or discrete, which is bounded in one direction by zero, and in the other by infinity. A magnitude, then, is that which 'gegen Null limitiert'. 2. Magnitudes are either perceptual ('anschaulich') or not: thus movement and velocity can be perceptually thought, by aid of 'fundierte Inhalte,' but are 'im eigentlichsten Sinne' non-perceptual magnitudes. 3. Magnitudes are divisible or indivisible: sound intensity, distance, and (among relations) difference and similarity are indivisible magnitudes. Most non-perceptual magnitudes are indivisible: *cf.*, however, multitude, (physical) mass, etc. II. Ueber Vergleichung, insbesondere Grössenvergleichung. 4. Comparison is the activity directed upon the formation of judgments of likeness or difference, similarity or dissimilarity. On this definition, all things are comparable. 5. Comparison is direct (gas and electric light) or indirect (length of Rhine and Danube). Direct comparison, which gives results, is restricted to certain classes of objects, and depends upon their surroundings. 6. The 'like' and 'different' of comparison need no preliminary and arbitrary definition (against von Kries). 7. The notion that certain things, *e.g.*, sound and light, are incomparable, arises where the things compared are magnitudes, and is due to the change of 'like' and 'different' into 'greater,' 'equal,' 'less'. As magnitudes, they are 'like'. The more definite predicates presuppose that the zeros of their series coincide: this is in every case neither self-evident nor demonstrable. 8. At the same time, the objects of comparison may need defining (*cf.* 6), and where we do compare for greater or less, the objects must be qualitatively nearly related (*cf.* 4, 7). This holds where, as for us, the magnitudes of comparison are differences. It does not mean, however, that the relation of difference is atypical (von Kries), *i.e.*, liable to variation in kind. 9. The judgment 'like' is epistemologically inferior to the judgment 'different'. The limit of apparent likeness is the difference limen. 10. In the comparison of sensations and of sensation differences nothing is gained, in very many cases, by speaking of 'noticeableness of difference' in place of 'difference'. 11. Theory and practice unite in favour of the expression 'just noticeable' difference. Note, however, that two j. n. d. need not be equal or even equally noticeable, —a statement borne out by the factual variability of the sensible discrimination. We must distinguish s. d. of stimulus from s. d. of contents (judgment limen). Difference of s. d. means inequality of j. n. d.; equality of s. d. is presumptive evidence of equality of j. n. (*i.e.*, equally

n.) d. Hence we may speak of 'difference,' though we may have, later, to take account of 'noticeableness'.] **S. Landmann.** 'Zur Diagnose psychischer Vorgänge, mit besonderer Bezugnahme auf Hamlets Geisteszustand.' [Against Rosner: Hamlet was sane. Shows no knowledge of the different sources of the play.] Litteraturbericht.

Bd. xi., Heft 3 und 4. **M. Meyer.** 'Ueber Kombinationstöne und einige hierzu in Beziehung stehende akustische Erscheinungen.' [Helmholtz' theory is not adequate to all cases. We must distinguish two difference tones: the tone of $m - n$, and that of $2n - m$. Hermann's theories of the median and duplicate interruption tones will not hold. Five vibrations (instead of Exner's 16) give us tone pitch. Difference tones can be mechanically explained, by peripheral analysis of the curve of the vibration. Wundt's theory of tone perception does not work.—A valuable article, both in critical and experimental regard.] **A. Meinong.** 'Ueber die Bedeutung des Weber'schen Gesetzes,' etc. [III. Ueber Teilvergleichung und Messung. 12. We can compare divisible magnitudes by their parts. Hence there may be more than one relation of comparison (even if similarity is excluded) between two magnitudes. Comparison by parts is (*a*) arithmetical (A − B) or (*b*) geometrical (A : B). The resulting numbers are named, and are not relations: the only relations which are magnitudes are difference and similarity (*cf.* 3). (*c*) Proportionality is likeness of differences. 13. Measurement is comparison by parts, aided by physical operations. The mental process of comparison is always present, however 'exact' the science. 14. True measurement is direct (line by superposed line) or indirect (scale and weights). 15. Indirect measurement is true or surrogate (distance measured by spatial extent, temperature by expansion, velocity by space and time). Surrogate measurement occurs where the magnitudes to be measured are indivisible (*cf.* 3). 16. And its possibility here is its justification. As for conditions: there is only one surrogate in each case; that must be a divisible magnitude, or if indivisible, measurable by a surrogate; its continuum must be strictly correlated with that of the real object of measurement. IV. Ueber Messung von Grössenverschiedenheiten. 17. Difference, an indivisible magnitude, must be measured by a surrogate. Extent (*Strecke*) serves for many cases, even for tones and colours, but not for all: indeed, there is no single surrogate for all difference. There may be one, however, for difference of measurable magnitudes of the same continuum. We must determine the functional relation between these and the magnitude of the difference between them. 18. What of the arithmetical relation? It breaks down in the case of 1 and 0: their difference is greater than that between any finite magnitudes. 19. Moreover, equal arithmetical difference (1 and 2, 1001 and 1002) is compatible with unequal differentness; 20, while unequal arithmetical differences may give the same differentness (constancy of the relative s. d.). The constancy of the relative difference limen is undisputed; and j. n. d. are equal differentnesses. In the case of supraliminal differentnesses there are apparently negative instances (Merkel), but these are not strong enough to overthrow our thesis. 21. Hence we must for the future distinguish between difference (arithmetical) and differentness, *Unterschied* and *Verschiedenheit*. 22. What of the geometrical relation? It breaks down in the case of the equality of the compared magnitudes; in other respects, it does better service. 23. What of the relative difference? It gives equal values for equal, unequal for unequal differentness; it gives 0 for the differentness of equal magnitudes; it does not break down badly when one of the compared magnitudes is 0 or ∞. 24. But it has two forms: either of the compared m.s may be divisor. If we test the matter algebraically, with three magnitudes, we find that the rel. d. with the smaller magnitude as denominator

(the form generally employed) leads to absurdities. 25. And if we test the remaining form with four magnitudes, we again come to grief. 26. We must conclude, then, that the differentness of two divisible magnitudes is equivalent neither to their absolute nor to their relative difference; though we should greatly prefer to work with the relative, if a choice must be made.] **S. Reichard.** 'Das Einfachsehen und seine Analogien.' [We see singly with two eyes: but we have analogies in hearing, smell and touch (sensory circles). All are cases of sensation simplicity with stimulation of distinct nerve endings.] Litteraturbericht.

Philosophische Studien. Bd. xii., Heft 3. **W. Wundt.** 'Ueber naiven und kritischen Realismus.' (I.) [Realism is a catchword of the day. Philosophical realism is 'a knowledge, unsophisticated and unsullied by any prejudices or arbitrary constructions, of the concrete reality (*Wirklichkeit*) contained in the world of experience'. Plainly, the philosophical discipline most nearly concerned is epistemology. The realist must go back to the original mode of apprehension of the thinking consciousness, to naïve realism; and, that standpoint won, must subject his results to critical tests, determining their prominence and significance: he thus advances to critical realism.—One of the most important schools of realistic thought to-day is that of the 'immanent philosophy,' represented by Schuppe, von Schubert-Soldern, von Leclair, Rehmke, Kauffmann. This school has missed the right road to the comprehension of the naïve consciousness, the road which lies open in the history of scientific thought. Its tenets are criticised under the headings: Immanence and Transcendence, the Doctrine of the Subjectivity of Sensations, Subject and Object, Aprioristic Elements in the Immanent Epistemology, Identity and Causality, the External World as Conscious Content, Psychology and Natural Science.] **C. H. Judd.** 'Ueber Raumwahrnehmungen im Gebiete des Tastsinns.' [Experiments by a modification of Weber's method: the second pressure is given by the instrument, instead of by the exploring hand of the subject. Literature is freely quoted, but has not been thoroughly assimilated.] **F. Kiesow.** 'Beiträge zur physiologischen Psychologie des Geschmackssinnes.' (IV.) [Temperature below the pain limit does not influence taste.]

Vierteljahrsschrift für Wissenschaftliche Philosophie. Jahrgang xx., Heft 3. **Th. Achelis.** 'Adolf Bastian.' **R. Willy.** 'Der Empirio-kritizismus „ als einzig wissenschaftlicher Standpunkt.' **E. Wachler.** 'Zur Natur und Entwicklungsgeschichte der ethischen Erscheinungen u. Werthe.' **M. Guggenheim.** 'Nachtrag zum Artikel über Spinoza.'

Heft 4. **F. Carstanjen.** 'R. Avenarius Berichtigungen zur "Kritik der reinen Erfahrung".' **S. Kableschkoff.** 'Die Erfahrbarkeit der Begriffe geprüft an dem Begriffe der Erziehung.' **E. Reich.** 'Die Sozialethik als Lehrgegenstand der Hochschule.' (Analyses will appear in the April Number of Mind.)

Archiv für Systematische Philosophie. Bd. ii., Heft 4. **J. Bergman.** 'Wolff's Lehre vom Complementum possibilitatis.' **C. V. L. Charlier.** 'Ist die Welt endlich oder unendlich?'

Bd. iii., Heft 1. **O. Schneider.** 'A. Stadler's Klassifikation der Wissenschaften.' **A. Baumann.** 'Wundt's Grundriss der Psychologie.' **B. Erdmann.** 'Sprechen und Denken.' (II.) **P. Natorp.** 'Grundlinien einer Theorie des Willensbildung.' (IV.) **L. Stein.** 'Ursprung und socialer Charakter des Rechts.' (Analyses will appear in the April Number of Mind.)

Psychologische Arbeiten. Bd. i., Heft 4. **A. Loewald.** 'Ueber die Psychischen Wirkungen des Broms.' [No influence upon the process of addition, upon the central release of movements, upon the course of

movement, and upon central motor excitations following bodily exertion. Bad influence on capacity of apprehension (?) and the learning by heart of columns of figures: good influence on the learning of nonsense syllables, upon learning by heart under distraction, and upon the rapidity of speech during learning of syllables. General effect: removal of internal, unpleasantly toned inhibitions.] **E. Roemer.** 'Beitrag zur Bestimmung Zusammengesetzten Reactionszeiten.' [New apparatus, simplified for psychiatrical purposes. Choice and word reactions.] **G. Aschaffenburg.** 'Praktische Arbeit unter Alkoholwirkung.' [Experiments with compositors. A moderate amount of alcohol decreases work-power, on the average (8 expts.) by 15 per cent.; fatigue decreases it by 6·5 per cent. The amount taken made no qualitative difference.] **W. H. R. Rivers** und **E. Kraepelin.** 'Ueber Ermüdung und Erholung.' [Experiments with addition. With half-hour work-spells, a rest of the same or even double the time suffices to restore full vigour once only; afterwards capacity rapidly decreases. 'Spurt' (*Antrieb*) is most obvious at beginning and end; it depends on personal factors; its relaxation indicates ennui. Capacity of practice is not dependent on capacity of work; it must be determined for itself, with constant errors eliminated, and then serves as a measure of fatigue, etc. Errors of thought are due to inattention; errors of pen to rapidity of work, impatience, inattention. There are many states of mind which are reliably indicated by the results of experiments such as these.] **E. Kraepelin.** 'Vorwort.' [To first volume.]

Philosophisches Jahrbuch. Bd. ix., Heft 4. **Prof. Schutz.** 'Der Hypnotismus.' (Fortsetzung.) [The writer goes into the details of the effects of hypnotism upon the imagination, the memory, the reason and the will, illustrating his statements by numerous examples.] **Prof. Uebinger.** 'Die Mathematischen Schriften des Nik. Cusanus.' (Fortsetzung.) [This paper gives a summary of *De Mathematices Complementis*, and examines the question whether two tractates ascribed to Cusanus are really his.] **Dr. Bach.** 'Zur Geschichte der Schätzung der lebenden Kräfte.' [This, the first of several articles, is a historical review of the discussions between mathematicians and natural philosophers in the last three centuries as concerns gravitation, atoms, and the nature of matter and force.] **Dr. Geyser.** 'Die Philosophischen Begriffe von Ruhe und Bewegung in der Körperwelt.' [An attempt at an explanation of rest and of movement in terms of Scholastic Philosophy.]

Voprosi Philosophii i Psychologii. May, 1896. **N. A. Iwantsoff.** 'On the Fundamental Principle of the Beautiful.' [Comparing ideal with physical beauty, the author places the latter on a much lower level.] **W. J. Gerrié.** 'Herder's Philosophy of History' (concluded). [Herder's system was not teleological, but anthropocentric. Human progress is the result of the general laws of the universe, but becomes a conscious fact only by ethical law.] **S. N. Trubeckoy.** 'The Principles of Idealism' (continued). [Faith in the absolute reality of the external world and of matter cannot stand against philosophical criticism; yet Being is concrete, and, as such, may be the subject of objective faith.] **W. Goltser.** 'On Strachoff, as an æsthetic critic.' [Both Strachoff and his master, Gregorieff, are severely judged.] **W. T. Tshizh.** 'Why our Ideas of Space and Time are not subject to Change.' [The purpose of this article is to show that physiological psychology confirms Kant's views on the matter.] **D. Konissi.** 'The Book of Respect to Parents.' [A translation of Confucius' well-known work.] **Baron D. Hincburg.** 'The Mystical Philosophy of the Jews in the Cabala.' [A literary and historical sketch of the evolution of Cabalistic literature.] **N. D. Vinogradoff.** 'Psycho-physiological Researches on Microscopical Organisms.' [The author uses Verworn and Binet's investigations on these organisms to decide certain fundamental questions of biology and psychology.]

X.—NOTES.

ADVERTISEMENT OF WELBY PRIZE.

A prize of £50, to be called the Welby Prize, is offered for the best treatise upon the following subject:—

"The causes of the present obscurity and confusion in psychological and philosophical terminology, and the directions in which we may hope for efficient practical remedy".

Competition is open to those who, previously to 1st October, 1896, have passed the examinations qualifying for a degree at some European or American University.

The donor of the prize desires that general regard be had to the classification of the various modes in which a word or other sign may be said to possess 'meaning,' and to corresponding differences of method in the conveyance or interpretation of 'meaning'. The committee of award will consider the practical utility of the work submitted to them, as of primary importance.

The Essays, which may be written in English, French or German, must be typewritten and must extend at least to 25,000 words. They should be headed by a motto, and accompanied by a sealed envelope containing the name of the writer. They may be sent to any member of the undersigned committee of award, and must reach their address not later than 1st January, 1898. The right of publication of the successful treatise is reserved.

Professor Sully, 1 Portland Villas, East Heath Road, Hampstead, London, N.W.
G. F. Stout, University, Aberdeen, N.B.
Professor Titchener, Cornell University, Ithaca, N.Y.
Professor Külpe, Würzburg, Germany.
Professeur Émile Boirac, 27 rue de Berlin, Paris.

TO THE EDITOR.

Dear Sir,—May I point out an unfortunate oversight made by me on pages 153 and 252 of *Elements of Psychology* edited from the lectures of the late George Croom Robertson? The review there quoted from contained in the pages of this journal and signed "Editor," was by the present Editor and not by Robertson, who had before then resigned. To the former I offer my sincere apologies. Neither Mr. Charles Robertson nor Mr. Whittaker is responsible for this mistake, the notes quoting from the review having been inserted after they had seen the proofs.

Believe me,
Yours faithfully,
C. A. F. Rhys Davids.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—SOME PROBLEMS OF CONCEPTION.[1]

By L. T. Hobhouse.

I. *The Data of Conception.* Thought, as modern Logic has taught us, is something which lives and moves. It does not rest in one point nor content itself with 'net results,' but is in incessant passage to something beyond. And in trying to estimate its work at any given stage, we are continually faced by the difficulty that what is before us is merely a stage, and its purpose and meaning are to be understood only with reference to some wider whole. Thus the conceptions and judgments in which the work of thought seems at first sight rounded off and complete appear on further reflexion to change their meaning and value a good deal according to the interest which has dictated their formation. We have constantly to take the context into account and the context often threatens to be of indefinite length.

This difficulty applies with especial force to an element of thought so confessedly incomplete as conception. For the concept is as a rule a mere element in some actual mental operation, such as judgment, while the judgment is determined by a question, or is premiss in an argument and as such has elements of meaning which its terms do not in themselves convey. If then we are to deal with conception at all without writing an essay upon thought in general, there seems to be only one resource. We must go back from

[1] Read before the Aristotelian Society.

the concept to the experience out of which it arises and to which it refers. This experience we shall find constitutes an intelligible totality of a definite kind and within it the reference of the conception falls.

General conceptions are based on resemblances in the order of experience. In such resemblances several factors are ordinarily involved. There are, first, two individuals, Callias and Socrates ; secondly, the common element, manhood, in which they are alike, and thirdly, the differences which separate them. Further, on these two sets of attributes relations of resemblance and difference between the individuals are founded, and these relations are hardly to be identified with the attributes themselves. Lastly, the whole set of contents as finally analysed and compared form a systematised totality for thought with a character of its own. It is on this totality that the general concept, Man, is founded, and within this that its meaning is to be sought, but whether the concept as such should be taken to express the totality as a whole, or rather some element within it, is a point which we shall have to discuss later on.

Meanwhile what we have said is enough to fix the general conditions under which conception arises. To form general concepts we must mentally bring points of resemblance in the empirical order together, that is, we must compare. And in order to compare we must in some degree break up the given order. This latter act is generally called abstraction and is made the central point of the work of conception. But here we are on the verge of error. For in the first place abstraction is rather a means to conception than a part of conception itself. That a content is general means that it is found in many instances. It may be as abstract as pure being or as concrete as this room with all its contents at this moment, but as long as it can be said to be realised in more than one case it is general and not merely particular. Of course in point of fact the richer your content is in detail the less likely it is to be repeated point for point in any other case. So far, I suppose, the old doctrine of the 'inverse ratio' is a truism. Hence, ordinarily, if you want resemblance, and especially exact resemblance, you must ignore differences. And to this extent abstraction as mere 'leaving out' is a means of forming the general concept. Abstractness is not as such generality nor is generality abstractness, but the empirical order being what it is, a tangle of resemblances and differences, one way of ascertaining and retaining resemblances is to leave differences out of account.

So far abstraction figures as a means. But this is not all.

Abstraction is defined as something negative. It is a leaving out and nothing more. But for the purposes of comparison it is not so much leaving out as singling out that is required. The contents which I compare and from which my general conception is formed are not likely to lie side by side. They will be parted as a rule in Time and Space, and, moreover, they are imbedded in a matrix of reality within which they are, as likely as not, mere elements. To serve for comparison they must obviously stand out in distinct relief. They must be singled out and known for what they are. But this process of discerning an element in a more concrete whole is rather what we call analysis than abstraction. It is a positive rather than a negative act. It does not necessarily leave surroundings out of account, while it does make a positive addition to the content before the mind by presenting as a distinct element that which is otherwise merged in a whole. There would be no theoretical objection to a mode of conception which along with the general content itself should retain its setting in every instance in which it had been presented. Such a conception would simply realise the extension in addition to the intension of the content and would serve every purpose of an ordinary generality so long as content and setting were kept distinct. The leaving out of the instances and their setting is merely a matter of intellectual economy, an economy, moreover, which is liable to incidental drawbacks. So far then we may say that while the idea and method of generalising are based on comparison, the contents to be made general are supplied by analytical distinctions within the order of reality.[1]

II. *Interpretations.* Such being the data upon which conception is founded it must in its usage contain at least a potential reference to them all. But, consistently with this, the overt and immediate interest of the concept may vary as between any points lying within the data. And if the overt and explicit purport of the concept is used as the basis of a theoretical interpretation of its meaning, interpretations will vary according to the bias of individual minds and the nature of the instances on which the analyses are based. Broadly we may say that there are three aspects of the data.

[1] Of course the more concrete the content the less important the function of analysis. The limiting case is where a content is taken up just as it comes (*e.g.*, in immediate Apprehension, or as the conclusion of an inferential process), and turned into a general content. Even here the content used must have some sort of context (*e.g.*, the previous sense object) from which it must be kept distinct. And to treat it apart from this context is, so far, to analyse.

mentioned which naturally offer themselves as starting-points for a theory of the concept. There is (*a*) first and foremost the 'common' quality which is the centre of the whole matter. For the abstraction theory in its crudest form it is enough to identify the content of the concept with the common quality as such. It is not 'men' but 'man' that forms its content. This theory, we should observe, works much better in some cases than in others. It does not seem difficult, for instance, to form a general idea of whiteness from which the differences in substance or shape of actual white objects are simply dropped. Nor is it hard to think of motion or pressure in a definite direction without special reference to other characteristics of the body which is moving or pressing. I do not insist that we can form abstract ideas without some irrelevant imagery. I mean only that in such cases the irrelevance is so clear that we have no doubt about it. We know exactly what we mean by 'white' or 'heavy,' and we have no temptation to confound them with other attributes of things. If there is still no 'leaving out' there is at least an adequate 'singling out'. But in other cases we seem to be much less successful. Theoretically curves of the second degree are in exactly the same position as white objects. They all agree in certain points and differ in others. A cabbage and a whale, again, agree in being organisms while they differ in other respects. But when the abstraction theory is pressed on these instances it begins to have the air of a fiction. To this theory a content is nothing if not definite, and the demand for a fixed and unchanging conception in these cases begins to put too great a strain on our intelligence. There seems at first to be a resource in the enumeration of elements. Whales and cabbages are both composed of cellular tissue, both assimilate nourishment, reproduce their species, and so on. But 'this is the by-path on which the Abstraction wanders from the path of the concept and abandons Actuality'.[1] These elements however carefully enumerated are not adequate to the idea of organism and leave us unsatisfied. And apart from them it seems impossible to fix the conception as something identical in all cases. The common element will not stand out from the differences as clearly as in the first instances.

We shall return to this point later on. But we note meanwhile a more general objection to our present account. In the common content taken merely as a content the element of

[1] Hegel, "Wissenschaft der Logik," *Werke*, v., p. 59.

generality has disappeared. A quality as a quality can only exist in an individual, that is, here and now, as a particular case. True, we can drop the particularity out of sight and think of the content as merely qualifying reality. But if we forget that the qualification must take place after all in individual instances we are on the high road to another fiction which will consist essentially in this, that we try to find the essence of universality in a mode of existence which is not individual. The universal will be thrown into contrast with its manifestations and a nervous sense of insecurity will make us shout very loud about its superior reality as compared with the mere particular. And this tendency will find support in many of the cases to which we have just referred. When the common content cannot be distinctly pointed out ground is given for the charge that no individual adequately represents it. No instance is really typical; still less is it ideal. Here at least there seems to be a *bona-fide* qualitative contrast. And if so, surely the ideal must have a reality of its own to which the mere particular is an imperfect approximation. Deny this and you appear as an iconoclast, a destroyer of all that men most cherish in experience, while the opposing theory 'upholds the banner of the ideal' and applauds itself as saviour of society. This is the fallacy of the supersensible, a fallacy which is always at bottom the same though its forms are many and various. Professing to be superior to sensationalism it rests on a view of reality quite as crude as the sensationalist. Its reality must be something which it can metaphorically touch and see. It must have its object distinct, crystallised, and unchanging. It insists on what is intellectually solid quite as much as sensationalism on what is physically solid. And when you point out that the principles in which it is interested are of a quite different character it supposes you to be destroying them. In a word, while imagining itself possessor of the spirit it is the hopeless bondslave of the letter. It is but another step, and the whole force and value of the world of ideas is taken violently from it and thrown into the supernatural. Right and wrong, for example, are taken to be worth so little that, unless there is hell fire behind, they may follow the national honour and be 'expunged from the dictionary'. And the irony of the situation is that the very same man who thus insists on the nullity of moral obligation poses, and quite honestly to boot, as the defender of morality against the wicked Sceptic who ventures to find an intrinsic and adequate authority in the honourable and the right, as right and honourable. This is the *descensus*

Averni on which we enter when we find the distinction of universal and particular in a different mode of reality. The Myth of Er will have to bolster up our demonstration of the happiness of the just. And as against the whole conception, Aristotle—who probably had sufficient intellect to understand his own teacher as well as any average nineteenth century commentator can do—will be justified in insisting that the *αὐτοάνθρωπος* cannot be defined in any way which will not apply to the men of our experience.

By reaction from the abstract idea we come naturally to the view (*β*) that the general content is really an expression for resemblances between individuals. In a sense no doubt this is true. But resemblance cannot be put in antithesis to the qualities in virtue of which things resemble one another. And if or in as far as the concept is based on an adequate analysis, the resemblance which it expresses will be not a vague relation between the individuals concerned as concrete individuals, but a precise relation grounded upon certain qualities which they possess. So far then from delivering us from the quality, resemblance brings us back to it again at the first turn.

Lastly (*γ*) the concept may be taken to cover a certain intelligible totality of experience—a mass of individuals taken as related by their qualities in certain assignable degrees of resemblance and difference. To predicate a general term of a subject may then be taken as equivalent to assigning it a place in such a system. This account again is true in a sense. For according to our original principle the concept must, directly or indirectly, explicitly or implicitly, contain a reference to the whole of the experience from which it is drawn. But this is really our starting-point, and what we want to find out is how the conception organises this experience for use in ordinary thought. And from this point of view we may note two objections. First, this interpretation would tend to throw all predication into a disjunctive form. To assign a thing a place in a whole is to leave a great deal indefinite unless we can go on to determine what that place is. And so the disjunctive theory of the concept is just as abstract in its way as the abstract theory itself. It leaves out information, and information which one would think to be relevant. In fact this scarcely seems to do justice to all cases of the general content. 'The fire is out' is surely as definite a piece of information as one could wish to have. No doubt it admits of further definition (the fire went out in a particular way, at a particular time, and so on), but this does not in the

least interfere with the clearness and fixity of the predicate as we have it.

Secondly, if the totality is taken as identical with the class the old difficulty recurs. The class is not, as such, a structural totality in which any component individual has its 'place' in the sense of fulfilling a function relative to the whole structure. On the contrary, the class, as Mill urged, is a mere dependant. It rests upon the common quality. And with that admission we have come back to our starting-point once more.

III. *Species of the General Concept.* We shall be able to understand and perhaps to unite these interpretations better if we advert further to certain real differences among general contents on which we have already touched.

(*a*) The abstract quality. In certain cases, as we have seen, the concept has a very clear and precise content, which stands out of itself, so to say, from its surroundings and runs no risk of being confounded with any of them. I do not mean that such a content can be represented 'by itself,' *in vacuo*, but that however represented we are quite clear that the context is irrelevant. A square, for instance, must be presented either to sight or touch, and in the first case it must have colour, and in the second it must have some tactual character. But this gives us no trouble. The outlines of our content are perfectly well defined. We know where it begins and ends and are under no temptation to merge it in anything else. A consequence is that squareness is a conception applied with perfectly identical meaning. It admits of no latitude and will hear of no compromise with the oblong or the pentagonal. The Principle of Excluded Middle is its rule of conduct. 'Either a square or not a square' is the maxim by which it measures things. It is a perfectly hard crystalline concept.

(*β*) The organic principle. In contrast — at first sight in absolute contrast—with the last class stand concepts based on that kind of resemblance which has given rise to the expression identity in difference. Both characteristics of the previous class are reversed. The common element is not readily distinguishable from the specific differences, and it is not applied with strict identity of meaning in all cases. For though there is an element of identity it is no longer unaffected by the differences, but the differences are precisely modifications of the identity. Thus above we had a quality A appearing in two contexts B and C. B and C were modifications of the wholes A B and A C but not of A itself. A appeared in each case unmodified. The

square was drawn in white chalk on a blackboard or in black lead on white paper, but was no more and no less a square in either case. Now here the attributes B and C are themselves modifications of A. A no longer appears in quite the same character twice over.

Thus to take an instance as before from the world of geometry, a curve of the second degree is a conception which can be rendered algebraically by a certain general form of equation. To this equation in its general form no real curve corresponds, and though it expresses certain qualities or relations of actual curves it seems impossible to form any adequate conception of the curves themselves as curves—except by what we may call disjunctive illustration. If in the general equation the sum of certain coefficients is determined as negative the curve will be an ellipse; if as positive it will be a hyperbola; if as zero a parabola. The general expression is here a form to be filled in, which does not acquire positive and intelligible meaning until filled in. It is related to intelligible conception as the word to the sentence. And since the form can be filled in in more than one way the general is *here* equivalent to the disjunctive.

Further, though the form has to be filled in, and though the net result will differ according to the way in which we fill it in, it remains in all cases the same form. The general equation holds whether certain coefficients have a positive, negative, or zero value. Each curve is a special and peculiar modification of identical elements. True, the relation of general and specific is in this case so organic, that we cannot adequately conceive the one without the other in some one of its forms. The 'modification' is not a real process applied to a real element and developing it in time into a new form. But the reality expressed by the phrase is the nature of the resemblance or characteristic affinity between the curves, as it presents itself upon ultimate analysis. The two or more contents resemble one another not in a vague or unanalysable sense, but in a way which may be accurately represented by saying that each presents a peculiar differentiation of a common quality.

Lastly the disjunction involved is no longer indefinite. And here we have another point of contrast with the abstract quality. For if 'square' is to be interpreted disjunctively, there is no end to the alternatives. A square drawn in chalk or pencil, or cut out of paper or cardboard, or formed in any way you please will do equally well, the nature of the material leaving the squareness quite unmodified. In other words the concept as abstract does not contain "the prin-

ciple of its differences".[1] With the General Equation it is quite another matter. The sum of its coefficients must have a definite value, and this must either be zero or some quantity with positive or negative sign. Hence the number and nature of the alternative modifications are deducible from the general conception itself when taken in conjunction with certain general axioms concerning quantity—in fact as Aristotle would put it from the *ἰδία ἀρχή*, which defines the *γένος* in conjunction with certain *κοινὰ ἀξιώματα* of wider application.[2]

The deduction is not indeed always as simple as this. An animal must respire, and must therefore have some specific method of respiration. But there are no assignable elements in the conception of animal organisation, from which we could infer that the methods of respiration must be such as we find and no more. We might doubtless say *a priori*, that respiration must either take place through a special organ or through the undifferentiated surface of the body. But beyond this we could not go, even, as recent investigation tends to show, by bringing the laws of osmosis in to our assistance. And this is no mere accident of incomplete knowledge. On the contrary, all we know of organic evolution would go to prove that the form of the respiratory system will depend as much on the environment as on the organism itself, and that with a modified environment a different method of breathing would be possible. In such a case the general conception contains the germ rather than the principle of its different forms, and the development of the germ will depend in part on considerations which we must regard as external.

The mention of the 'germ' recalls another point on which a few words may be said. We spoke above of the element of identity as a mere abstraction, but there may perhaps be cases in which the element or tendency which appears in many varying forms should also be allowed a certain reality upon its own account. It seems to be so, for example, with ethical ends. Thus we might define the Socialistic spirit as the attempt to extend the principles and conduct which are realised with tolerable success in the family to the state at

[1] *Cf.* Hegel, *op. cit.*, p. 47.

[2] Of course we may so define any given curve as to make it quite as definite as a square. And such a curve would be realised in a variety of ways which would be quite irrelevant to it. Conversely the square itself may be treated as a specific case of a higher 'organic' concept. The distinction is between the relations of each concept to the cases coming immediately under it. See below, § V.

large and even to humanity as a whole. This spirit is an actual force operating in the minds of men and women. It is a living desire or purpose and proves its independence in this, that it survives failure and actively searches for new forms of expression. And it is the more worth while to insist on this because in the various movements, political and industrial, which it animates, it is more or less alloyed with other motives. The differences here are not merely developments of the general conception. The principle may be lost in detail or marred by its contact with grosser realities. In fact in such a case we are between Scylla and Charybdis. There is a fallacy of the abstract on one side and a fallacy of the concrete on the other. In the one case the principle remains an empty aspiration, a pious formula. In the other it is dissolved in the detail of organisation and machinery. There is an abstract practicality as well as an abstract theorising.

On the other hand the element of identity may, seemingly, disappear altogether, and we may have a very well marked system of contents neither exactly alike nor capable of being represented as differentiations of a common quality. This I imagine to be the case with colour. We cannot represent the different colours as modifications of a common colour quality, but only as different combinations of two or three tints. Here the concept falls back upon a quality which is no longer identical in all cases, but only more or less alike; and it is only so far as the limits of variation are known that it can be said to retain any definiteness of character.

IV. *The Concept in Knowledge.* We may now bring our two cases together and consider the results for the general theory of the concept. In the first case then we have a quality existing unchanged in many instances and in diverse contexts. It is only one attribute (or complex of attributes) of the reality to which it belongs and it cannot exist except in conjunction with other attributes. But these attributes do not modify it. They are to be regarded as being along with it attributes of or elements in the whole which they form. They are not attributes or modifications of the quality itself. In the second case the attributes along with which the common quality is given are in fact modifications of the quality itself. As between one case and another the resemblance is not complete but partial, and if we wish adequately to express the reality we cannot always separate the point of resemblance from the point of difference and throw them into contrast with one another. In any case, the generic element and its specific modifications are so

related that either is incomplete and threatens to be meaningless without the other.

It follows that a conception as actually appearing in thought will have somewhat different meanings according to the class to which it belongs. Take the abstract quality first. When I say that 'the fire is alight,' I do so presumably for the purpose of giving information. The point of interest to my hearer is that the coals laid in a particular fireplace have entered upon a definite state. In short the real interest is in a *particular* fact—a quality belonging to an individual thing. At first sight the element of generality has disappeared. We only find it again when we consider how the information is imparted. I choose a certain word to express the fact before me because that fact resembles others in my experience, and, as I assume, in yours also; and to facts of that kind the term in question has been appropriated. The interest in the judgment is confined to the particular, but the terms used, taken in their full signification, express that the particular through the quality assigned resembles other things. The concept, we may say, as organised along with other terms into the Qualitative Judgment becomes an element in our knowledge of a particular fact, but in virtue of the residue of its meaning it brings this fact into relation with others. And this residue may in turn become the point of interest in a new judgment and the same concept may contribute to a quite different thought.

In the real world of thought the concept exists in order to be used, that is, to be combined with other thoughts and so produce results. And in these combinations now one and now another element of its meaning will be emphasised. The residue will sometimes be obscurely felt, but will probably be always a condition, realised or unrealised, without which the actual thought could not be formed. But in all cases its reference is to the same reality, the existence in many things of qualities resembling one another. The quality merely as abstracted from its surroundings is not general. It is at best indeterminate. It is a content with a certain character, but generality is not a part of that character. Resemblance, again, is a relation depending upon character, but in which the character is not yet specified. The class of individuals, again, fall as individuals outside the scope of the concept, while the extent of the class is determined only by the possession of the character. The true general content is Reality, as similarly qualified in an indefinite number of individual cases. This is the total meaning of the content, in which the nature of the quality, the plurality of instances,

and the resulting resemblances are distinguishable elements, any one of which may form the main contribution of the conception to any Thought into which it enters.[1] In a very general and abstract sense, the account we have given of the abstract quality will also apply to the organic principle. This principle also bears reference to Reality as similarly qualified in an indefinite number of cases. But this is an inadequate account. To say that the fire is alight is to say something complete in itself, to bring out a net result. To say of a curve that it is of the second degree, or of a physical substance that it is an organism, may rather be said to be setting a question than answering one. For any intelligent learner the questions, what sort of curve? what kind of organism? naturally arise. This follows quite logically from the nature of the case. The content now before us is not something readily realised and identical in all cases. It is something demanding further determination, and varying in character according to the determination which it receives. When a content of this kind is predicated the judgment is categorical only in so far as it brings the subject decisively within certain limits, and as certain elements of the predicate are of the definite and unchanging kind. In this case therefore the universal tends to the form of a disjunctive system. It stands for that character of Reality A, which modified by α appears as a, by β as b, and so on. We should not identify the element of generality with the system as such. It is still the aspect of similarity which makes the content general. But we should say that the system is one in which the general and particular are taken as distinguishable but inseparable.[2]

[1] A rather common and seductive fallacy arises from the neglect to distinguish these elements. A quality is called a 'universal' when it forms the nucleus of a general content in the way above described; and the other elements requisite for generality are omitted from consideration, or, worse still, are sometimes inserted, and then again omitted, as the exigencies of any given argument may require. To take only one instance, we are told that of the individual nothing can be known but what is general. The only ground for such a statement is that the qualities assignable to an individual must be expressible in general terms, and therefore points in which it is similar to others. But a thing does not lose individuality by entering into relations. The argument proceeds as though individuality and generality were mutually exclusive qualities, one of which a thing might possess but not both, instead of being expressions for the resemblances and distinctions between things of which the latter invariably implies the former.

[2] The concrete individual presents us with this union in actual fact, and this made Hegel take it as the highest phase of the concept as such "In der Einzelnheit ist jenes wahre Verhältniss, die Untrennbarkeit der

V. *The Relations of the Species.* So far we have spoken as though any given content fell into either one form of the concept or the other, according to circumstances and just as it may happen. But we may go a little farther than this. In the first place we have, so far, been engaged mainly in setting two types in contrast with one another. Actual concepts may vary between the two. Absolute definiteness and constancy is a limiting case, and a content may approximate thereto without reaching it. The irrelevance of the context may be more or less complete. The more constant the content and the more irrelevant its context, the more categorical its usage. There remains always the sense of a disjunction (so to put it) in that the quality must be realised in this way or that. Even the square must be either drawn in chalk or pencil or in some other way, it must be of a definite size, and occupy a certain position. Similarly in the other species the element of identity persists and is categorically predicated, while the differences are not wholly and purely its modifications.

We may go a step farther. Viewed broadly the distinction tends to coincide with a certain grade in the hierarchy of classification. If there is a true *infima species* all differences within it are wholly without effect on the constancy of the content. They are all of the irrelevant order. But the same cannot in the most important cases be said of the ascending genera. In the truest classification the species exhibit the genus in a modified form. And this distinction tends to coincide with two others. For our *infima species* will be a kind of "first universal"—an attribute simple or complex, clear or obscure, taken straight out of experience as it comes, and categorically asserted or denied of fresh subjects; while the genus as now understood will presuppose these universals, and grasp their somewhat complex and subtle affinities in a single thought. And, secondly, upon the whole the species as nearer to the concrete is more distinctly realisable. As we get farther back we come to that which, more and more, is bound to take a distinct form upon itself in order to acquire any distinct and realisable character.

VI. *Relation to Classification and Inference.* From what

Begriffsbestimmungen, gesetzt" (*op. cit.*, p. 61), but we must remember that the individual instance can only be taken as "a universal" with the limitations laid down in the preceding note, while the total system cannot be identified with an individual as a structural or continuous unity. For this reason, I have avoided the historic phrase 'concrete universal'.

we have just said it will be clear that our two forms of conception serve in practice as the basis of two very different types of classification. Take a system M in which a common element A works out under modifications α, β, γ, etc., into the forms $A_\alpha = a$, $A_\beta = b$, and so on. Here we have, or may have, a hierarchy of classes in which as we descend the scale every new species is formed by a fresh modification of the common element. The classification is so far natural that it exhibits the real structure of the species composing it. And it wants but a step to pass into a genuine explanation. If A as unmodified is a reality, and if α, β, etc., can be regarded as real processes modifying A, the classification is in itself an explanation of the genesis of the diverse species. A would then figure in two senses, as a concrete being at the beginning of a process and as an abstract character running through the evolving forms. We are not likely to find an instance of so simple a type. It is perhaps most nearly realised in the sphere of human purposes. But normally the most primitive form of a content has a definite character of its own, something of which it loses in passing to a richer and fuller phase of development. Primitive society loses something as it develops into a higher form. The protozoon is generically, I suppose, the unicellular modification of the organic type. Still the classification once made it is relatively easy to place the species in a possible genetic order, and by verifying the historical character of the genesis to translate the classificatory system into an explanation of development. Further, such a system may throw light on genesis even where its hierarchical arrangement bears no relation to temporal development. In such a system to know the factors in the formation of any one member is virtually to know them for all cases. Thus we may arrange forms of art or types of society in an order of genera and species, and apart from positive evidence of the development of one form from another light will be thrown on their origin, since the arrangement will show of itself how the conditions issuing in one type will, *mutatis mutandis*, be responsible for others.

In contrast with all this stands the disjunctive classification for which the abstract concept is responsible. It must needs be that disjunctive classifications be made. They serve our purposes, prevent confusion, and provide ideally a complete enumeration of types. They belong to the preliminaries of science, the arrangement of the material and the marking out of the subject-matter. But as science progresses they tend to pass into the other type. Thus I

suppose that in an early stage of zoology the conception of an animal is grasped abstractly, *i.e.*, by certain specifiable characteristics—in Aristotle's system, for instance, the possession of sensation. Then animals are either vertebrate or invertebrate, and vertebrates are either Mammals, Birds, Fish, Reptiles, or Amphibia. And the characteristic of possessing mammæ is just as 'external' to the vertebrate as the grass which it eats is external to the herbivorous mammal. The progress of Natural Classification consists in a gradual transformation of these external differences into alternative modifications of more primitive forms. Some quadrupeds have claws and some have hoofs; some hoofs are cloven and some uncloven. All this looks like the merest accident, until the genealogy of the Horse shows how the different results are progressive modifications of a single form. Differences then which are at first mere differences become as we go on connected differences, and the organic classification supersedes the disjunctive by absorption. How far this process can go, whether in the ideal of knowledge it would extend to all differences and embrace the whole system of things, is a question which would take us far beyond the limits of this paper.

In regard to inference, the abstract universal (as we may now more correctly call it) is of course the basis of Syllogistic Deduction, or, as Mill very appropriately called it, "the Geometrical Method". No one, as Bacon admitted, can doubt the validity of Syllogism provided that the universals which it uses are adequately founded and properly defined. The real fallacy of Syllogism is to take it from the region of the abstract and apply it to the organic universal. In so far as the middle term is qualitatively unchanged in the two premisses the conclusion holds. But the organic universal is modified in every fresh species and if we take it abstractly for purposes of deduction we shall go wrong. It sounds plausible to argue that the Economic Man is no more and no less an abstraction than Energy or Inertia. But the precise difference is that the effects of Inertia are, so far as they go, identical in all cases and we know exactly how much to allow for them in whatever combination they appear. But man as an economic agent differs according to all gradations of his character and intelligence. Even his selfishness—if we single out that characteristic—is one thing if it is stupid selfishness, and quite another if it is far-seeing. The difference of the two in their effects on the rate of wages or the fate of a Trade Union would be immense. The argument from what man does must yield here to the argu-

ment from what men do; and speaking generally as we pass from the abstract to the organic universal Syllogism must give place to that correlation of independent generalisations, which, in its nearest approach to Syllogism, is identical with the Concrete Deduction of Mill.

What the organic universal lacks in relation to formal reasoning it makes good in respect of what we may call the method of art. There are two opposite fallacies with regard to artistic representation in this matter of the Universal. The first is that art should give us the type as such, that its men and women should be embodied formulæ like Inspector Javert, or personified negations like the early Victorian heroine. This amounts to a confusion between art and mathematics. The countervailing fiction is that art should give us the individual as such, which would reduce painting to photography, and the romantic to the grotesque. It is now an old saying that the truth of both views is to be found in the Concrete Universal. And on our view this will mean that Art represents a piece of life which with all the richness of its individuality is yet easily recognisable as but one modification of the common experience of man. The element of identity is the touch of nature which makes the whole world kin. The misfortunes of Priam are not such as could fall on you and me, and the drama of the Trojan War would look strangely on the stage of our experience. But in Art the kinship is revealed, and the common human element is felt:—

> Sunt hic etiam sua praemia laudi,
> Sunt lacrimae rerum et mentem mortalia tangunt.

The art-created individual is a starting-point for thought in which the paths of analogy and generalisation are already indicated. The lines of conceptual structure are made clear in the concrete like the limbs of a statue under drapery. It comes to us with an atmosphere of suggestiveness and expansion due to the host of half-formed comparisons and inferences of which it becomes spontaneously the centre. And as inference is mostly unconscious, we may never draw explicit generalisations from it, and if we do, they are likely to be inadequate expressions of our real meaning. But it will affect our attitude none the less, and will give us a sureness of touch which we could certainly not derive from the abstractions of the subject. An intelligent foreigner might learn something of our tenant-farmer class, say, by the study of blue books and histories. But he would learn a good deal more from the study of Mrs. Poyser.

VII. *Deduction and the Essence.* There is indeed one aspect in which the organic universal appears as a basis of formal deduction. If we take it as a disjunctive scheme in which the alternative modifications of each item are taken as known, it may, as above hinted, be used as a basal principle from which the specific forms can be deduced. We have here the Aristotelian ideal of science. We start with the generic essence, the primary special principle which states the τί ἐστι of the γένος, while it also assumes the real existence of something corresponding to its terms (the ὅ τί ἐστι). This generic essence contains several elements (τὰ ἐν τῷ τί ἐστι κατηγορούμενα[1]), and each of these in its turn admits of further definition. Each of these definitions will contain several elements, and through the mediation of the term defined these are all shown to be attributable to the generic conception. They are in fact the πάθη which are thus proved καθ' αὑτό of the ultimate γένος. This is why a science can, and according to Aristotle should, proceed through definition.[2] Thus to illustrate from the *Ethics* (though that is not strictly an ἀποδεικτικὴ ἐπιστήμη) 'happiness' must be assumed as an actual end for man, and must be defined as an activity of the soul in excellence. Here we have the ὑπόθεσις laying down the existence of our general subject-matter and defining its essence. Then taking up the points of the definition, activity, soul and excellence may all be further defined. Whatever enters into their definition will become an element in the general conception of Happiness. And the various elements in the definition of excellence, ἕξις, προαίρεσις, μεσότης, etc., will all be susceptible of further definitions which will in turn admit of the same treatment, until in φρόνησις (which here replaces ἐπιστήμη) we have the complete system of reasoning which connects our general principle with the various occasions of conduct as they arise.

This theory must be criticised, not as an account of the growth of science, but as a conception of its structure when complete. From this point of view we may say two things. First, the theory of the organic universal tends to justify the conception of essence as such, and in particular the relation of genus and species indicated by the Aristotelian theory. For the common principle is the generic essence, and it contains the elements which in their various modifications produce the specific forms. And so far as we look at a subject in

[1] See, *e.g.*, *Post. Anal.*, i., 22, p. 82, b. 37.

[2] πᾶσαι αἱ ἐπιστῆμαι δι' ὁρισμοῦ γίγνονται. *Post. Anal.*, ii., 17, p. 99, a. 22.

detachment from others, this seems an adequate expression of the goal of knowledge. But here, secondly, we come on the limits of the Aristotelian conception. For Universals do not live side by side and develop themselves independently. Far the greater part of science is taken up with their correlation, the constructions they form, the ways in which they interact. And the essence itself does not show a tenth part of its nature, does not display the properties which we derive from it apart from its intercourse with the wider world. The so-called properties of the thing are mainly reactions to solicitation from other things. They must be taken into account in forming our conception of the essence, but they are not referable to it alone. We speak for instance of the properties of light or heat as following from the essential character of those phenomena. But almost any property we could name depends on other physical facts as well. Thus the 'latency' of heat may be taken as a property dependent on the nature of heat as a mode of motion. So it certainly is. But it is equally dependent on the constitution of solids, liquids and gases, and might fairly be taken as a property of the physical constitution of bodies. But let us take Aristotle's own favourite instance of the property of triangles that their angles are equal to two right angles. Euclid's proof of this—and I suppose that it was the same proof that Aristotle had before him—does not attempt to deduce it from the definition of the triangle as such. It proceeds by a special construction, the production of a side and the drawing of a line parallel to another side. In short it is based on the relation of the triangle to other lines in space, and on the properties of parallel straight lines in particular. It may be said that this only affects the method of proof and not the result. But surely an ideal systematisation of knowledge, though it might abstract from the path of discovery, would have in some way or other to exhibit the grounds of certainty.

I conclude then that the conception of essence stands in an interesting relation to that of the organic universal. Under the abstract concept all the constituent elements may be regarded as essential and as equally essential, but the essence as a whole becomes identical with the concept itself. Among the elements the only possible distinction is one of value. And as this may vary according to our point of view any element may become essential or unessential as the case may be. But under the organic universal the generic essence is necessarily the identical element as distinct from the modifications which it receives.

These modifications could not be turned into the central point, but are naturally of a secondary order. In some degree they may be referable to the essence as such, and so far as this is the case we get a detachable and self-centred field of knowledge.[1] But in the main they with their various properties are the effects of interaction. Each essence is, so to say, a centre of force, but the phenomena are mainly visible in the field between the centres.

The distinction, then, of the two species of the Universal is no less important for knowledge in general than for the theory of the concept in particular. Disjunctive classification and syllogistic deduction are associated with the one, while the other stands in close relation to 'Natural' Classifications and the concrete methods of artistic presentation. And we have now seen that the conception of Essence with its historical associations which threatens to disappear under the one *régime* has an important sphere of influence under the other. Further problems arising in relation to the distinction must be excluded from the scope of the present paper.

[1] If any property is referable to the essence strictly as such, *i.e.* with no further condition, there could be no real reason for excluding it from the essence. Hence, apart from the idea of value the distinction of essence and property would vanish. Thus there appear to be two cases in which the term essence has real meaning: (1) when it is the generic principle opposed to specific modifications, and (2) when it is the substantial character, opposed to varying states, a case which does not concern this paper. We should hardly allow, as a third case, the structural principle of a totality as distinguished from the elements of which it is composed. For either elements and principle imply one another, in which case both are of the essence ; or they do not, and then we have one or other of the former cases. Or the distinction is purely one of value.

II. — HEGEL'S TREATMENT OF THE CATEGORIES OF THE SUBJECTIVE NOTION.[1] (I.)

By J. Ellis McTaggart.

The object of this paper is to consider that part of the dialectic process which Hegel calls the Subjective Notion. The views which I shall put before you are, I believe, substantially the same as those of Hegel, except on a few special points, which I shall notice as I come to them.[2] But the question which I wish to raise is not whether they are a faithful representation of Hegel, but whether they are intrinsically true. To discuss the former would be a comparatively unprofitable task, for many of the transitions from category to category are left by Hegel in almost hopeless obscurity. This is, I think, to be mainly attributed to two causes. The first is the excessive condensation—especially of the *Smaller Logic*—which at places gives room for little more than the mere naming of the categories, without any attempt to deduce them. This is specially noticeable in the Subjective Notion, from the great extent to which it is subdivided. The second cause is to be found in Hegel's tendency to let the polemic side of the dialectic sink out of notice. He was much more inclined to show that the higher category is suggested by the lower than to point out that the lower is contradictory without the higher. Unless this too is demonstrated, however, the dialectic loses all its cogency. And how it is to be demonstrated, in certain cases, Hegel leaves us to discover for ourselves, almost unaided.

Our best course will thus be to attack Hegel's problem, aiding ourselves by his treatment of it, but not confining ourselves to his arguments. What, then, is the problem of the Subjective Notion?

The Subjective Notion forms, in the first place, the first

[1] Read before the Aristotelian Society.

[2] The notes in which I defended my divergence on these points are here omitted for want of space.

division of the Doctrine of the Notion, which is the last of the three parts into which the logic is divided. The last category preceding it is Reciprocity. This, for the purpose of our present paper, we must assume to be valid, and it will form the postulate from which our arguments must start. Reciprocity is the last category of Actuality, the final division of the Doctrine of Essence.[1]

Since our argument is to start from the admission that Reciprocity is valid, we must begin by defining the significance of this category. By asserting the validity of Reciprocity, Hegel means, in the first place, that everything is so connected with other things, that the existence and nature of the one is dependent on the existence and nature of the other, and *vice versâ*. Secondly, everything in the universe is connected in this way, directly or indirectly, with everything else, so that the universe forms a connected whole. And, thirdly, the whole nature of everything consists of nothing else but these relations of reciprocal dependence with other things.

Starting with this, we have to reach the highest stage of the Subjective Notion—that to which Hegel gives the name of the Disjunctive Syllogism. We may provisionally define this category as asserting that the nature of everything is determined by a hierarchy of general laws, which are themselves ultimate and cannot be reduced to anything else. These laws form a series, the lower subordinated to the higher, such that the highest law embraces the whole extent of reality, while the lowest completely define the nature of the objects to which they apply.

We may therefore say that the advance made by the dialectic in the Subjective Notion is from the idea of complete determination in general, to the idea of complete determination by a symmetrical structure of general laws. We are apt to confuse these two ideas in general language, but they are in fact distinct. The admission that A is always determined by something outside itself does not assert that determination is by general laws. It still leaves the possibility open that each determination is unique and individual, and that the supposed existence of general laws is due to a mistake in our observation of the facts. If the dialectic succeeds in proving that determination does involve general laws it will therefore have made a real advance.

The Subjective Notion is divided with a greater minute-

[1] This applies to the *Smaller Logic*. In the *Greater Logic* the arrangement is rather different, but the difference is here unimportant.

ness than can be found in any other part of the Logic. It is, in the first place, divided into three stages, entitled by Hegel the Notion as Such, the Judgment, and the Syllogism. The Notion as Such is subdivided into the Universal, the Particular, and the Individual. The Judgment has four subdivisions—Judgment of Existence, of Reflexion, of Necessity, and of the Notion. Syllogism, again, is subdivided into Syllogisms of Existence, of Reflexion, and of Necessity. Each of the subdivisions of Judgment and Syllogism is again divided into three yet more minute stages. One or two of these divisions I shall venture to suggest ought to be discarded as superfluous or worse, but even then this part of the dialectic will remain exceptionally elaborate.

What is the significance of these names? They seem at first sight to mean that this part of the dialectic deals only with the workings of our minds, and not with all reality. This might account, it would appear, for its being called Subjective, and for the choice of such names as Judgment and Syllogism for its divisions.

But such a use of Subjective would not be Hegelian. For him Subjective does not mean the inner as opposed to the outer. It means rather the particular, contingent, and capricious, as opposed to the universal, necessary, and reasonable.[1] And thus our hypothesis would fail to explain the choice of Subjective as the title of the division.

Moreover, our hypothesis is untenable. For on examining the categories which have the titles of Notion as Such, Judgment and Syllogism, it becomes evident that, in spite of their names, they do not apply only to the states of our mind, but to all reality. They grow, by the dialectic process, out of the categories of Essence, and the categories of the Objective Notion, in turn, grow out of them. There is no doubt that the categories of Essence and of the Objective Notion refer to all reality, and so, therefore, must the categories of the Subjective Notion. Otherwise they could never solve the contradictions which arise in Essence, nor, from their contradictions, could we be entitled to proceed to the Objective Notion.

Hegel's own language, too, renders it clear that these categories are meant to apply to all reality. He says, for

[1] The only case, so far as I know, in which Hegel uses Subjective in any other way, is in the *Greater Logic*, when he calls the doctrines of Being and Essence by the name of Objective, and the doctrine of the Notion by the name of Subjective. But this is not repeated in the *Smaller Logic*, and he says that he considers this use of the names as unsatisfactory, though usual. *Cf. Werke*, iii., p. 51.

example, "all things are a categorical judgment";[1] and again, "everything is a syllogism".[2]

We must look, then, for another explanation of the terminology. We can find it, I think, in the connexion of this part of the dialectic with formal logic. Formal logic, of course, owes its existence to abstraction. When we take its standpoint we make abstraction of all but certain qualities of reality. Now these qualities, we shall find, are those which are demonstrated as valid at that part of the dialectic which we are considering in this paper, so that at this stage, and not before, formal logic could be metaphysically justified.

We find that formal logic assumes that we have the power of ascribing general notions as predicates to subjects, and in this way arriving at truth with regard to those subjects. And it also assumes that we are in possession, in some manner or the other, of various general truths, such as are expressed in the statements All A is B, No A is C.

On the other hand, we find that there are other characteristics of reality of which formal logic takes no account. It makes no distinction between trivial and important propositions. "No man is wholly evil," and "no man has green hair," are assertions which are for formal logic of precisely the same rank. And, in the second place, it does not inquire how, in the first instance, we ever came to know the truth of any proposition. It always assumes that something *is* known, as a *datum*, and only occupies itself with considering how other knowledge can be deduced from this.

Now we shall see that the Subjective Notion of the dialectic begins with the idea of universal notions, and that it soon is led on to the further idea of the existence of valid generalisations—the two assumptions of formal logic. And we shall also see that the characteristic defects of the Subjective Notion are the inability to give any account of the existence of these generalisations which shall be free from contradiction, and the inability to distinguish between the relative importance of such generalisations. These defects are not overcome till we reach the Syllogism of Necessity, which is the last stage in the Subjective Notion, and forms the transition to a higher idea.

This will enable us to explain why the divisions of the Subjective Notion draw their names from formal logic. It is not that these categories apply only to the subject-matter of formal logic, but that the procedure of formal logic is

[1] *Enc.*, Section 177. Lecture Note. [2] *Ibid.*, Section 181.

such that it makes especial use of these categories, which are therefore named from the subject-matter on which they are most often employed.

Analogies to this may be found in the Objective Notion. Two of the divisions are here named Mechanism and Chemism. It is clear, however, that these categories are not meant to apply solely in the ordinary sciences of Mechanics and Chemistry. They are ideas applicable to all reality, but the most striking instances of their use can be found in those sciences, from which, therefore, they take their names.

It must be admitted that this principle of nomenclature is not only perplexing to the reader, but in some cases misleading to the author. In dealing with the categories of Judgment and Syllogism, Hegel seems at several points to be led into unnecessary complexity by the desire of carrying the analogy with formal logic as far as possible. But to this question we shall return.

We can now understand, too, why the whole section is called Subjective. It is called Subjective because it is contingent, and its contingency is the same which we find in formal logic—that the principle of classifying which is adopted is entirely indifferent. For formal logic all universals are of the same importance, and it sees no difference between a classification which, *e.g.*, classes pictures by their painters, and one which classes them by the size of their frames. From this contingency we do not begin to escape till we reach the Syllogism of Necessity.

THE NOTION AS SUCH.

The Universal Notion as Such.

The last point which Hegel reaches, before the Subjective Notion, is, as I have said, the category of Reciprocity. For the purpose of this paper we must assume the validity of Reciprocity, and we have now to consider the transition from this to the first stage of the Subjective Notion. This is the Notion as Such, which appears first in the form of the Universal Notion.

With regard to this transition we must notice, in the first place, that we have here attained to the idea of completely necessary determination. In Causality, while the effect is determined, the cause is free, and, however far we may push back the chain of causation, the last link to which we have at any moment attained will be a cause only, and not an

effect. But in Reciprocity the cause is the effect of its own effect, and the necessary determination is complete.

To say that it is in this necessity that we first reach freedom can only appear a paradox till it is examined. We must remember that for Hegel freedom never means the power to act without motives, or with an unmotived choice of motives. For him freedom always means absence of external restraint. That is free which is what its own nature prompts it to be, however little choice it may have had about the matter.

If we say, then, that a thing is deficient in freedom, we must mean that, while its inner nature, if unthwarted, would lead it to be A B C, it is compelled by external influences to be A B D instead. Now this appeared possible in the categories of Essence. For there we conceived everything as having an inner nature, which was connected indeed with its external relations, but was not identical with them, which could be either in or out of harmony with them, and, in the latter case, would be constrained. But by the time we have reached Reciprocity we see that this is a mistake. The thing has no nature at all, except as it is determined by, and in turn determines, other things. These external determinations are its inner nature. And thus it reaches freedom. If it has no inner nature but its external determinations, it is clear that its external determinations can never make it do anything against its inner nature. This is indeed only a negative freedom. But any more positive freedom requires higher categories than we have yet reached. In necessity we have gained all the freedom which is possible until the idea of End has been developed.

This point is so important that, to prevent ambiguity, it may be well to anticipate some considerations which belong more properly to the Objective Notion and to the Idea. Directly we introduce the ideas of End, of Life, or of Self-consciousness, we begin to distinguish between a free and a constrained state, even while we recognise that both states were equally determined from outside. We talk of a healthy tree as developing freely, in opposition to one which is struck by lightning or withered by drought. And yet it is as completely determined by external circumstances in the one case as it is in the other. A man feels himself free if he can do what he wants, and feels himself constrained if he cannot. And yet his desire and its gratification are as completely determined in the one case as his desire and its disappointment are in the other.

This, however, does not contradict our previous result.

We removed the idea of constraint, when we reached the category of Reciprocity, by removing the idea of an inner nature as distinct from external relations. But, by the time that we have reached the category of End, the idea of an inner nature has come back again, though in a different and higher form. It is not now conceived, as it was in Essence, as something existing side by side with the external relations, connected with them, but distinct from them. It now takes the form of a Purpose or Ideal, which we conceive should be or ought to be realised by means of the external relations.

It is clear that the possibility of conflict and constraint has returned here, though in a different form. It is not now, as before, a conflict between two existent factors or elements of the thing's existence. It is now a conflict between that which is and that which ought to be, but is not. When such a conflict exists, we call the thing constrained. When the real and the ideal harmonise, we call it free.

This reaches its most striking form when we come to a self-conscious individual, who is conscious (in a more or less adequate form) of his ideal, and who pronounces himself free or constrained in proportion as he has or has not realised it. He is thus able to pass judgments of moral condemnation on that very system of complete determination of which his judgments of condemnation are themselves a part.

This conflict will require a deeper reconciliation than the one which proved effectual in Reciprocity. It cannot be brought about, as before, by reducing the inner nature to another name for the outside circumstances. For, although a separate inner nature, as Essence, was a delusion, a separate inner nature, as Ideal, is a reality. And, therefore, the reconciliation will have to be reached, not by eliminating the inner nature, but by demonstrating it to be in harmony with the external relations.

The freedom which is attained by the establishment of complete necessity is thus only negative and imperfect freedom, but it is all that can be obtained at the point of the dialectic where it is introduced, and it is also all that is required, since it removes all the constraint which can be conceived as existing before the introduction of the idea of End.

We must return from this digression to the question how we are to proceed from Reciprocity—now recognised as Freedom—to the Universal Notion as Such. The Universal Notion as Such is clearly, whatever else it is, a common quality to be found in two or more things, which are united

by their participation in it. Things, again, are united by the reciprocal determinations which we have established among them. But these are clearly not Universal Notions. If A is the cause of B, and B the cause of A, they have not in so far the same quality, though they have closely analogous qualities, and qualities which we are now entitled to regard as inseparable. The relation of things which have the same Notion is not that of mutual determination, but of similarity. Any common quality—such as whiteness, squareness, sweetness—is a Universal Notion. (We are here, it must be remembered, at the very beginning of the Notion. In the later categories the meaning of the word becomes much deeper.)

The category of Reciprocity informed us that all the qualities of every object could be accounted for by the mutual determinations which existed between it and other objects. Now of these qualities we knew previously that every object had some qualities in common with every other, and that no object had precisely the same qualities as any other. This was established, early in the Doctrine of Essence, by the category of Likeness and Unlikeness. It falls beyond the scope of this paper, but in passing we may point out that if two objects had no qualities in common, they could not be counted, or brought into any relation, which is incompatible with the hypothesis that they were two, and that they were different. On the other hand, if two different objects had precisely the same qualities, it would follow that the difference between them could only be in their essence. But this difference in their essence would, on the hypothesis, have no effect on their appearance, which obviously destroys all meaning in the terms essence and appearance. From Likeness and Unlikeness to Reciprocity there are many categories, but none of them transcend this particular characteristic of the former. And so we reach our present point in the dialectic with the conclusion that the various qualities in the reciprocally determined things must be such that no thing is entirely like or entirely unlike any other thing.

The result is that things are doubly connected—by similarity and by causation. And it is obvious that a thing may be, and generally is, connected by the one tie to things very different to those to which it is connected by the other. A sparrow in England resembles very closely a sparrow in Australia, though the influence exerted by one on the other may be as slight as can possibly exist between any two beings on the same planet. On the other hand the English sparrow's

state is largely determined by his relations—positive and negative—to worms and to cats, although their resemblance to him is not close.

Both these connexions have to be worked out further. This the dialectic proceeds to do. It first takes up the relation of similarity, and works it out through the course of the Subjective Notion. Then, in the Objective Notion, it proceeds to work out the relation of determination—not going back arbitrarily to pick it up, but led on to it again by dialectical necessity, since the Subjective Notion, when fully worked out, shows itself to have a defect which can only be remedied by the further development of the idea of determination. Finally, the two are united in the synthesis which Hegel calls the Idea.

I am aware that this is not the way in which Hegel himself makes the transition.[1] But it seems to me to be a valid way of making it, and I cannot see any other. It may, however, possibly be objected that, whether this result be true or not, it breaks down all dialectic process, in the sense in which dialectic is understood by Hegel. The dialectic is unquestionably continuous. Each result must come from the one before it. And here, the critic might say, we have dropped the result gained in Reciprocity, put it aside till we come to the Objective Notion, and, in order to get started in the Subjective Notion, gone back to a result which had been gained at the very beginning of the Doctrine of Essence.

This, however, is a mistake. For if, in one sense, we start here with the idea gained in Likeness and Unlikeness, that idea has been transformed, or we could not start with it. And it only can be transformed by the application of the conception of complete determination, which came for the first time with the category of Reciprocity. Thus both accusations of want of continuity are answered. We have not gone back to take up a long past result, but are taking it the moment it becomes available for our purpose. We have not dropped our result last obtained, since it is through this alone that the previous conclusions have enabled us to take the next step.

The fact that, at the beginning of the Objective Notion, the idea of reciprocal determination comes again into prominence, is by no means unsuited to the dialectic process. We have seen that, in the synthesis of Reciprocity, the two sides—of qualities similar and dissimilar, and of reciprocal deter-

[1] See Note A.

minations—are balanced. We might then expect exactly what happens—that in the following triad one of these two sides is developed in the thesis, and that this, being imperfect and contradictory when taken by itself, requires the further development of the other side in the antithesis. (The Subjective Notion is, of course, the thesis, and the Objective Notion the antithesis, in the Doctrine of the Notion.)

The reason that the Universal Notion as such can be introduced here and not before is as follows. In Likeness and Unlikeness we found that it might be said of everything that it was like everything else in some respects and unlike it in others. But what we did not say there was that by these likenesses and unlikenesses its whole nature could be expressed. For in that category—one of the earliest in the Doctrine of Essence—the distinction between essence and appearance was not removed. And these distinctions of similarity and dissimilarity, like all other relations, belonged to appearance only. Behind them was the essence, a *Ding an sich*, which was neither like or unlike anything else, but entered into no relations at all.

Now the conception of the Notion as such is that the whole nature of things can be expressed by means of general qualities. And this cannot be the case so long as the qualities are looked on as mere appearances, dependent on an essence whose nature they do not express. It is for this reason that Hegel does not speak of Universals till we reach the Doctrine of the Notion. Before that things were seen to have common qualities, but this was only an external, though necessary characteristic, not the expression of the thing's own nature. Now, however, this is changed. We saw in Reciprocity that a thing has no inner nature, except its outside nature, which had been previously determined to consist of general qualities. If this result is itself imperfect, and some sort of inner nature will have eventually to be admitted, yet as against the mere *Ding an sich* of the Doctrine of Essence the result is final and conclusive. And so we come to the conclusion that we can know a thing thoroughly by predicating a sufficient number of qualities of it—which is the assumption of formal logic.

The transition may then be summed as follows—the whole nature of everything consists in its qualities, by which it stands in reciprocal determination with everything else. And as everything has some qualities in common with everything else, the nature of everything may always be expressed in part by pointing out some common quality, which it shares with something else. This common quality, now that it is

realised to be the real nature of the thing, and not merely an external appendage, is the Universal Notion as Such.

The Particular Notion as Such.

It is, however, obvious, that this is only one side of the truth. If we found that everything must have some quality in common with everything else, we also found that no two things could have exactly the same qualities. And so, if we express the nature of A and B, in part, by pointing out that they have the common quality X, we are able to assert that it must also be the case that A possesses some quality M, not shared by B, and that B possesses some quality N, not shared by A. These qualities which distinguish the two things united in their possession of X, are what Hegel calls Particular Notions as Such.

We see from this that no Notions are in themselves (at this stage) either Universal or Particular. The qualities M will be shared by A with other things, for example, C and D, and could have been made a Universal, with X under it as a Particular. For example, if we decide to classify a gallery of pictures by their painters, we may bring two pictures together as both painted by Raphael. They may be distinguished from one another, again, by one having a good frame and the other a bad one. Here "painted by Raphael" is the Universal, "having a good frame," and "having a bad frame," are the Particulars. But it would be possible, from caprice, or in preparing instructions for a frame-maker, to class pictures primarily by the condition of their frames. The first Raphael might then find itself separated from its companion and classed with a Velasquez. The Universal would here be "having a good frame," and the Particulars "painted by Raphael," and "painted by Velasquez".

This brings out the contingency which earns this part of the dialectic the name of Subjective. According to this category, any one classification, of the innumerable classifications possible, is as good as another. Any two things can be brought into the same class—for no two things are destitute of some common quality. Any two things can be separated—for no two things are without some difference in their qualities. There is no distinction made here between a classification based on deep and permanent similarities, and one based on trivial and temporary similarities. There is no criterion even of the fitness or unfitness of the classification for any special purpose we may have in hand. Our choice of a Universal must be purely capricious.

Another way in which the classification is contingent is the relation of the Particulars to the Universal, when the latter is determined. Any difference which will divide the Individuals brought under the Universal is sufficient. No account is taken of whether it is a difference specially connected with that Universal. For example, in the first case above, the distinction of good and bad frames is not a speciality of Raphael's pictures, but may be found among the pictures of all painters. Nor do we inquire whether between them the Particulars exhaust all possible cases of the Universal. For although the two Raphaels which we supposed under discussion were sufficiently discriminated by their good and bad frames, it would be possible for a Raphael to exist without a frame at all.

The Individual Notion as Such.

This is the synthesis of the Universal and the Particular. The transition is a simple one, and as often happens in the Doctrine of the Notion, has almost intruded itself when we were considering the thesis and antithesis. We have seen, on the one hand, that the Universal has no meaning without Particulars. For, if the various things to which the Universal is common were not discriminated, they would be only one thing; and if the Universal were only in one thing, it would cease to be a Universal. On the other hand, we have seen that the Particulars have no meaning without the Universal, since they are not Particulars except in so far as they are subordinated to a Universal. And thus the reality of each thing is only expressible by such a combination of Notions as at once unites it with and separates it from everything else.

THE JUDGMENT.

Judgment of Inherence.

Positive Judgment.

This first and simplest form of the Judgment relates itself to the last form of the Notion as Such, not as an advance, but as a mere restatement. This is, of course, the typical and customary relation between a synthesis and the thesis of the next triad. The reality of a thing, we have seen, was expressible only by a combination of Notions. It must therefore be possible to assert some relation between the

thing and each of its Universals. And this is what we do in Judgment. The question of how a thing and a Universal can be connected with one another, which was implicit in the Notion, becomes explicit in Judgment.

This problem, to begin with, takes the form of starting from the thing, and endeavouring to adjust a Universal to it. This is called a Judgment of Inherence, as distinguished from a Judgment of Subsumption, in which we start with the Universal and endeavour to connect the thing with it.[1] (From this point onwards the thing defined by the Universal gets a special name, and is called the Individual.) That Judgment should commence as Judgment of Inherence is due to the form in which it receives the problem. Ever since the Thing first received some degree of definiteness, early in the Doctrine of Essence, the problem has been to define and explain it. And so we start here with the Individual as the *datum*, to which the Universal has to be related. The only relation we have had so far between the thing and its Universal has been an affirmative one, and so we start with a positive Judgment of Inherence—I is U.

The Particular has fallen out here, because, as we have seen, a Particular is only a Universal which has been subordinated to another Universal. When, as in the Judgment of Inherence, we are considering only one Universal at a time, there can be no Particular. (Of course Universal and Particular Notions—which may be terms in Judgments—must be carefully distinguished from Universal and Particular Judgments, which we shall find among Judgments of Subsumption.)

In formal logic two other varieties of Judgment are possible. I is I—*e.g.*, "Beaconsfield is Disraeli"; and U is U—*e.g.*, "Man is mortal". But the first of these would be no help to us here, since it would not help us to develop the nature of the Individual, and the second we have as yet no right to use, until we have established the validity of general propositions.

The I here must be taken strictly as a mere Individual, not as yet qualified by a Universal. We must not say, for example, "This rose is red," but simply "*This* is red". We may, indeed, say "this rose," as Hegel does, to avoid the ambiguities which arise from the use of the simple demonstrative in writing, but we must consider the subject indicated

[1] The names which Hegel gives to these two divisions are Qualitative Judgment and Judgment of Reflexion. I have ventured to change them for the more significant titles which he suggests in the *Greater Logic* (*Werke*, v., p. 94).

as a mere individual, and so not yet explicitly qualified by the Universal of being a rose. For this would be to beg the whole question of Judgment,—*i.e.*, how can an Individual be qualified by a Universal?

Negative Judgment.

How, we must now inquire, does this Positive Judgment break down, and compel us to continue the dialectic process? Hegel says that all statements of the form I is U are necessarily false. If, for example, we point to a rose and say "This is red," there is a double falsity. Red is not identical with the rose at which we point, for, in the first place, there are many other red things in the world besides this rose. And, in the second place, it is not identical with it, because the rose has many other qualities besides redness. Even if we have not identified it as a rose, but merely point to it, we shall know that it must have other qualities besides the redness, though we do not know what. An object could not exist with only one quality, for then it could in no way be distinguished from other objects which it in any way resembled.

It seems at first sight as if this was a mere quibble. "Of course," it might be answered, "no one supposed that the *is* here was to be taken in the sense of absolute equivalence, as when we say the sum of three and two is five. A change of language will remove the difficulty. Say that the subject *has* redness, or the quality of being red, and the criticism ceases to have any force." But the defect is in reality too deeply rooted to be removed in this simple fashion.

Some relation between the Individual and Universal must be found. Identity is obviously impossible. If the Universal was identical with the Individual, it could apply to no other Individuals but that one. That Individual would therefore not be connected by it with anything else, and therefore the Individual, since all connexion by Universals would be impossible to it, would be absolutely isolated, with no resemblance to anything else in the universe. Now, this state of isolation we have already seen to be impossible.

Can we then say that the Individual *has* the Universal? We have already used this method of relation in the Doctrine of Essence. There we were able to say that the Thing had its Properties.[1] But a difficulty has arisen since then.

[1] Hegel has appropriated almost every possible word expressive of reality as the name of some category. Among these "Thing" designates

Before anything can be said to have something else, it must itself be determined as being. Till it is real it cannot possess anything. And so if we are to say I has U, we must assign some reality to I other than U. Now, in the category of Thing and Properties this was possible. For the Thing was still conceived as an Essence to which the Properties were attached as appearance, but which had a reality in some way distinguishable from them. This distinction of Essence and Appearance, however, disappeared as we were dealing with Reciprocity. Our Individual is completely expressed by its Universals. It has nothing else in it. Where, then, are we to get the reality of which we can say that it has the Universal?

(We may notice in passing that, in the Doctrine of Being, things *were* their qualities, in the sense that the two were undistinguishable. In Essence they *had* their qualities. Now, at the beginning of the Notion we find both terms inapplicable, and must wait for a deeper category which will allow them both to be true.)

It is true that, although the Individual is completely expressed by Universals, it is never completely expressed by one Universal. Can we hope to find, in those Universals which we are not at that moment expressly predicating of the Individual, a reality which can be said to *have* the Universal which we are then expressly affirming?

Let the Individual before us, for example, be red, sweet, perishable, and beautiful. The Universal which we wish to predicate of it is red. We have seen that we may not say "This is red". Can we put, by means of the other Universals, sufficient meaning into the This to be able to say "This has redness"? Let us try to do so by considering the This as qualified by one more Universal—for example, sweet. We are then in a dilemma. Either we say, when we undertake to define the Individual which is to have the redness, "This is sweet," or "This has sweetness". The first we have already admitted we have no right to say. The second we can only say if the This which has sweetness is previously determined. And in this way we should be committed to an Infinite Regress before we should be able to determine the Individual.

a particular category in Essence. I have found it impossible to dispense with the use of "thing" in a more general sense, as indicating a centre of reality without regard to the particular category under which we may be contemplating it. I have therefore endeavoured to avoid ambiguity by always using a capital letter when referring to Hegel's category of Thing.

It may be objected that, although the additional Universal is not sufficient to constitute an Individual capable of having a Universal, yet that we should reach a sufficient degree of substantiality in the Individual if we regarded it as the meeting point of an indefinite number of other Universals —which it certainly is. Will not the fact that they all meet in that point give the point sufficient unity for us to be able to assert of each of them in turn that the Individual has that Universal? This looks plausible. For when we have reached to Judgments of Subsumption, and regard each Universal as having a different field of denotation, then, the more separate Universals you predicate of any Individual, the more completely do you define it and mark it off from all others. But we have not reached that point here. We are only dealing with Judgments of Inherence. We know nothing of fields of denotation. We have only the single Individual, and we have to relate the Universals to it, without taking any other Individuals into account.

And, therefore, at the present stage of the dialectic, to predicate overlapping Universals of the same Individual does not remove the contradiction, but only aggravates it. If we say "This is sweet and beautiful," we have a double absurdity instead of a single one. We cannot identify This with either sweet or beautiful, since they are Universals, and This is an Individual. And even if we could identify it with either, we certainly could not identify it with both, since they are not identical with one another, and it is quite possible to be sweet without being beautiful, or beautiful without being sweet.

To sum up, then, it appears impossible to affirm a Universal of an isolated Individual. If we say that the Individual *has* it, we are compelled to assert that the Individual *is* some other Universal. And by the very fact that one is an Individual and the other a Universal, we know that they cannot be identical. The only case where *is* can in this sense connect subject and predicate is the Identical Judgment—A is A. Even formal logic recognises this as the *reductio ad absurdum* of Judgment, and here, where it is essential that the predicate shall be a Universal, it is still more obvious that it is useless.

There seems, however, to be a refuge open to us. Our Positive Judgments have broken down because the subject and the predicate could not be made to coincide. Now, in a Negative Judgment the assertion is precisely that they do not coincide. We reach here, then, the Negative Judgment.

Transition to Subsumption.[1]

The Negative Judgment, however, cannot help us. We have adopted it as an escape from the Positive, and it will not work without the Positive. Of every Individual there is no doubt that many Universals can be denied. Otherwise, if all Universals could be affirmed of all Individuals, the Individuals would not be in the least unlike one another, which we have seen to be impossible. But, on the other hand, if all Universals could be denied of any Individual, that Individual would be completely dissimilar to every other Individual, which we have also seen to be impossible. Negative Judgments cannot exist without Positive, and cannot, therefore, take their place.

As Hegel points out, all the interest of a Judgment which denies a Universal, A, of an Individual, is dependent on a wider Judgment which affirms of the Individual some Universal, B, which is compatible with A. Thus the proposition "The elephant is not carnivorous" is interesting because the elephant is a mammal, and some mammals are carnivorous. The proposition "The oak is not carnivorous" is less interesting, and still less interesting, though equally true, is the proposition "The moral ideal is not carnivorous".

Hegel, however, seems to me to weaken his case by saying that such propositions as these—his example is "The mind is no elephant"—are examples of the Infinite Judgment, "in which we are presented with the total incompatibility of the subject and the predicate".[2] For in that case true, though trivial, Negative Judgments could exist independently of Positive Judgments. But no proposition can be a completely Infinite Judgment, since that would imply that there was no Universal in common between the Individual who is the subject of the Judgment, and those Individuals of whom the predicate could be affirmed. And this is an impossible supposition, for, as we have seen, nothing can be completely dissimilar to anything else. In Hegel's example, a mind resembles an elephant—though not closely. For example, they both exist in time.

As no Negative Judgment, except an Infinite Judgment,

[1] My difference from Hegel at this point I believe to be little more than verbal (see Note B). It has compelled me, however, to find a new name for the Synthesis. As this synthesis states, in a general form, the idea worked out in the next triad, I have called it "Transition to Subsumption" upon the analogy of the "Transition to Essence" in the *Greater Logic* (*Werke*, iii., p. 466).

[2] *Enc.*, section 173.

can be independent of Positive Judgments, and as an Infinite Judgment is impossible, we shall be compelled, if we have Judgments of Inherence at all, to have Positive Judgments among others. But Positive Judgments of Inherence we have seen to be impossible. We must therefore discover, if possible, some higher standpoint which will deliver us from Judgments of Inherence altogether.

Our difficulty has arisen from the inevitable incompatibility of the Subject and Predicate in Judgments of Inherence. How can this be changed? Obviously the predicate must remain a Universal. For if not, it could never connect the subject with anything else, and so could never assist in determining it. It is not, however, inevitable that the subject must be one Individual. It is possible that a predicate should be asserted of more than one Individual at once, whether these are simply enumerated, or defined by means of a second Universal. We must avail ourselves of this, therefore, and endeavour to determine some form of subject which is compatible with a Universal for a predicate.

This will introduce, for the first time, the conception of Quantity in Judgments. In Judgments of Inherence, the quantity is always Singular, or rather the distinction of Singular, Particular, and Universal is unknown. (Particular and Universal Judgments must not, of course, be confused with Particular and Universal Notions in Judgments. Thus Some men are good is a Particular Judgment with two Universal Notions in it.) But now we are going to take as our subject a varying number of Individuals, and the distinctions of quantity will consequently arise.

Another result of the advance is that the fixed point, if we may so call it, in the Judgment has been changed. In the Judgment of Inherence the subject was the *datum* and the problem was to provide it with a predicate. Here, on the contrary, the predicate is the *datum*. We have to find a subject to which it will apply. Instead of saying that a certain predicate is one of those which belong to a given subject, we say that a certain subject is one of those which possesses a given predicate. It is for this reason—because these Judgments are best expressed as bringing their subjects under their predicates—that they are called Judgments of Subsumption.

III.—THE FUNCTION OF RELIGIOUS EXPRESSION.

By Henry Rutgers Marshall.

§ 1. In the article that has preceded this, as the reader will remember, we found ourselves led to the conclusion that there are many influences in our complex social life which, if unrestrained, tend to produce an over-emphasis of variance from typical forms of action, and to subvert the order of instinct efficiency which has been formed in us and which we judge must be of value to our race in its struggle for supremacy. This suggested to us that there might be developed within us a governing instinct functioning to prevent this over-emphasis and this subversion, and led us to look for some signs of the existence of such a governing instinct.

In the very beginning of this search the fact was forced upon us that some of the most characteristic activities connected with the expression of our religious feelings must tend to produce the very results that our governing instinct if existent would itself tend to produce. This in turn led us to ask whether religious activities are to be classed as instinctive; and finding evidence that they must probably be so classed and remembering that all instincts have biological functions, the hypothesis naturally suggested itself that the function of the activities expressive of the religious instinct is to emphasise within us instinct in general and to subordinate variance; to strengthen the instincts of wider import and to subordinate those that are less wide in their influence although occasionally more powerfully developed; to establish a certain order of impulse efficiency which if effective will bring those instincts that are of individualistic import into subjection, under certain conditions, to those that function in relation to the persistence of the species; and to bring both of these classes of instincts, in general, into subjection to the instincts that have social import.

This hypothesis must be judged by a study of the effects

produced by the very varied expressions of religious feeling. Such a study I could not attempt to make in a single article, even in outline, were it not that the many forms of religious expression naturally fall into a few groups which we may find space to consider briefly.

I shall attempt in the case of each group to show that the persistence of these special activities cannot be explained on the ground that they either appear to be or are in fact of individualistic advantage, nor on the ground that they tend to advantage in relation to the processes governing the reproduction of kind.

On the other hand I think it will appear that they do serve to emphasise the order of impulse efficiency already referred to, bringing into prominence the social impulses and tending thus to produce persistence of the higher social types. We are able then to account for their persistence in our race; for, as we have seen, it is advantageous to us to emphasise the social instincts which make possible the existence of these social types; for these social instincts could not have arisen in us unless the actions they induce were of advantage, indirectly at least, in the maintenance of the life of the individuals and species in which they appear.

§ 2. It will serve our purpose best at the start to say a few words concerning the form in which this emphasis of the later formed instincts would present itself to consciousness.

If the argument which has preceded this be correct, if the later formed instincts relating to social life are effective rather through the wide general trend of the activities they induce than through the forcefulness or quickness of reaction to the stimuli which call them out, then it seems clear that they will not be likely to force themselves upon our attention as the impulses of individualistic significance, and those relating to reproduction, will surely do; for these latter are called into existence by presentations of forceful nature and must in a large proportion of cases function promptly if they are to be of service.

But where, for any reason, stimulation to individualistic reaction is absent, and where the instincts relating to reproduction are not called out, then the tendency to act in accord with the trend determined by the social instincts must necessarily become more prominent and the ethical impulses must sway our lives.

Now the primitive man in whom these social instincts are beginning to develop will with difficulty have his attention turned to the existence of the impulses they determine

except under conditions of individualistic restraint which are foreign to the habits of the savage; he would therefore with difficulty recognise them as definite impulses, as distinct leadings; and they would be likely first to gain marked attention if they happened to appear in the form of hallucinations which would startle the one who saw the hallucinatory vision or heard the hallucinatory voice, and would gain power with him, and with the neighbours to whom he told his tale, because of his and their crude animistic beliefs, which naturally led them to look for the manifestation of spirit life in all objects around them.

It of course cannot be claimed that all hallucinations occasion emphasis of the later formed and higher impulses, for hallucinations are morbid phenomena and naturally appear persistently in neurotic patients. On the other hand, however, it is true that a great deal of hallucination does emphasise in a morbid way the higher impulses and does produce ethical mania and religious melancholia: Emerson [1] went so far indeed as to remark that a "certain tendency to insanity has always attended the opening of the religious sense of men as if they had been 'blasted with excess of light'".

But all that concerns us here is to note, that the conditions which tend to induce these hallucinatory states are the very conditions which would restrain all tendency to individualistic reaction and would leave opportunity for the less forceful but broader impulses to assert themselves.

In extreme states of hallucinatory impression the one impressed falls into what we know as the trance state. In trance states some or all of the senses which bring to us our knowledge of the outer world are usually benumbed: the person "stares at vacancy" perhaps, or pays no attention whatever to his or her surroundings, and in general shows a total lack of that power to concentrate the attention upon the outer world at large which is so necessary for the perception of those objective conditions in the environment which lead to individualistic reactions. The one who perceives the hallucination may indeed fall into a state which is so morbid as to be indistinguishable from catalepsy.

Where hallucination is not accompanied by such morbid conditions, we nevertheless have of necessity a repression of reaction to environmental stimuli, and a concentration of thought upon states of purely subjective origin; how else can we explain the higher emphasis of those subjective

[1] Compare his essay "The Over Soul".

states, the deceptive perceptions, which are not stimulated from without us, and which psychologically speaking make the essence of the hallucinations we are considering?

Where the processes, which when carried to extremes produce hallucinations, are not carried to extremes, mental states similar to those accompanying hallucination will obtain; consequently if any benefit were ever connected with the attainment of true hallucinations, the same benefit in less degree would be likely to be gained by the person who followed the practices which often lead to hallucination, who even aimed to attain the hallucination, whether he succeeded or not in his endeavour. What is more, these closely allied mental states would be closely related by the one who had once experienced hallucination to his more startling experience; so that it appears not at all obscure why it has become common custom to speak of our consciousness of the pressure of our impulses as though voices spoke within us, guiding our lives. There is no fiction more general and none more beautiful than that which tells us of the "still small voice of conscience". It will be convenient to use this metaphor from time to time, and I am sure I shall not be misunderstood in so doing.

It will appear upon examination that the various groups of religious expression which we shall examine tend to produce the suppression of individualistic reaction, and lead us to listen for the guiding voices within us; and that if carried to extremes they end often in the production of true hallucinations during which the influences from the objective world are largely cut off and notions of purely subjective origin are falsely objectified.

Before beginning our study in detail I must speak again of one point which will apply to all the religious expressions to be examined. Notwithstanding all that was said in the last article of this series there is likely to be a confirmed impression in the minds of some readers that religious habits are forced upon the race altogether by tradition and custom; that we undertake them purely as the result of our imitative tendencies.

I have already stated why I believe this notion to be without foundation: although it is doubtless true that many of our religious habits are thus acquired by one generation from the preceding generation; still it is to be noted that when certain fixed habits appear in wide masses of people, and where they persist for long historic periods, then we are warranted in the assumption that the tendency to follow the

actions of the preceding generation is due to an inborn trend and capacity, especially if the actions "imitated" appear to the individual to be disadvantageous to him or to his race, or are distasteful to him in any degree, directly or indirectly. In the case of the actions which we are about to study, not only do we find this persistence in wide groups of men but we find a common source acknowledged as the basis of the most varied types of actions; and we find also, as I hope to show, a common trend of all to one special biological benefit, notwithstanding that marked disadvantage appears at the first glance to be connected with them all.

§ 3. In what I have already written I have given so much prominence to the religious habits connected with voluntary seclusion from the stimuli of our complex life, that it is natural to begin our study with an examination of this form of religious expression.

It will not require discussion to convince the reader that seclusion from the exciting stimuli of the world will tend to reduce those reactions upon our environment which determine the expression of the individualistic instincts, and that seclusion will thus give play to the impulses which are of non-individualistic import.

Seclusion involves a tendency to fixation of thought upon our inner springs of action, and when carried to extremes naturally tends to produce hallucination. The experience of man in the early stages of his development must have led to the observation that what we call hallucinatory voices or visions, but which he believed to emanate from higher powers, were often noticed by men during involuntary seclusion; the voice had spoken, the vision had appeared, again and again to those who were alone in the desert, far removed from the distractions of normal life. Now to the man of undeveloped type these voices and visions must have been very impressive. In times of great danger or perplexity the guidance of these higher powers, as they were conceived, might be wished for; and this might lead some individual to seclude himself voluntarily because he entertained the hope, which would be discovered in some cases to be well founded, that this mysterious guidance might thus be obtained.

But here I would ask my reader to note an important point; *viz.*, that while we may thus account for the appearance of the habits of seclusion in individuals, on the other hand it is not at all easy on any such basis to account for the *persistence* of these habits in the race; persistence which is implied in the fact that they have at length become

instinctive. For the occasions when such guidance would be wished for must surely have been relatively very infrequent; and it is difficult to understand how such occasions could occur with sufficient frequency to develop the habits that were finally to become instinctive.

It would be possible to explain the acquisition of such habits indeed if, there having been some exceptional recurrence of fear or perplexity to foster them, the habits themselves or their accompaniments had been intrinsically attractive; but such they very clearly could not have been. For evidently the painfulness, the danger, the hardship connected with the life of the man who thus secluded himself from his fellows must have been apparent to all. What is more, the very guidance in hallucinatory form which he might occasionally gain in seclusion must have been conjoined in his mind with a very decided repulsion; for men as we know them surely display no special wish to be startled by hallucinations; rather are they wont to dread ghostly forms and voices; and we have every reason to believe that our savage ancestors were still more averse to these mysterious sights and sounds than the average man is to-day. This being true, evidently any habits which tended to produce these hallucinations would naturally be avoided, if in any case the connexion between habit and result were recognised. This fear of hallucinations would therefore act to prevent the acquisition by intelligent process of such habits of seclusion.

It might be possible to claim that the primitive man to whom in his seclusion the hallucinatory message was given would gain power and influence, and to hold that on that account his actions would be imitated from purely individualistic motives by those who envied him this power or influence. In making such an argument, however, we would have to overlook the fact that the power and influence would not accrue in any degree until after the firm establishment of the customs under consideration, and would also fail to consider what an inconsiderable proportion of the "inspirations" that have come thus forcibly to men have brought to them power or honour, comfort or benefit in life. Think for a moment of the natural revolt that the savage man must have felt, if his own personal welfare in this world were alone considered, if once he realised the hardship, with little compensation, in the life of the average hermit who had felt and proclaimed himself to be an inspired prophet. Moreover, it must be remembered that the man who, under the hypothesis we are considering, is supposed to choose this

life for the emoluments of one kind or another connected with it, must be supposed also to be fairly intelligent, and intelligent enough surely to note that relatively few of those who seek to gain the hallucinatory guidance by this means ever really gain it at all; and this fact is so evident that it would certainly act as a distinct bar to the intelligent and voluntary acquisition of the painful habits, even though they were seen in some few cases to lead to the gain of this guidance. On the whole then I think we must grant that it is impossible to explain the acquisition and persistence of the habits of seclusion which we are considering, under the hypothesis that they are due to intelligent recognition of personal benefits to be obtained from such seclusion.

But if we are compelled to grant that the habit of seclusion is on the whole one that would be naturally avoided by the man seeking self-satisfaction, we are also compelled to grant that if it did appear in the race it would, in its direct results, be disadvantageous to the individual, and furthermore would be opposed to the persistence of the species.

Persistent seclusion must, on the whole, be dangerous to the individual, who thus loses the advantages that go with co-operation and mutual help in moments of emergency; and in the early days of man's development, when these habits were becoming ingrained in the race, the dangers connected with attack by enemies and beasts of prey would certainly be greatly increased if the man were unable to avail himself of protection by others of his own kind. I need not say a word to convince any one that the same persistent seclusion from the world, if honestly carried out, must necessarily prevent reproductive functioning; and this in itself would tend to eliminate the portion of the race which had acquired these habits of seclusion.

It is apparent then, I think, that in connexion with the instinctive actions leading to seclusion, we must look for some other significance than the advantage of the individual or the persistence of the race through reproduction: for without such other significance these habits, even if once acquired, would speedily be eliminated by natural processes through the failure in the struggle for existence of those in whom these habits became predominant.

But as a matter of fact, we know that the habits of seclusion which we have under discussion have not been eliminated. A volume might be filled with the names of "saints," and ethical masters, and of hermits, who have found messages of inspiration in their lives of separation from the world. But vast numbers who have received no such messages have

in like manner excluded themselves. I need but to mention the monastic orders in the Christian Church and in other religious bodies as examples of the widespread tendency to separation from active life as an expression of religious thought. We find also that amongst large bodies of religious men habits of temporary seclusion have been established; habits which differ from prolonged seclusion in their repulsiveness and disadvantage only in degree. And finally when we come to the consideration of the perfectly normal religious habits of perfectly well-balanced people, of men and women of the very highest and noblest type, we find them withdrawing themselves upon occasion from the distracting stimuli of the world and giving themselves up to higher reflexion and thoughtful self-examination.

In cases where men removed from the normal environment receive thus what they feel to be inspirations, these messages are evidently not likely to be related to individualistic reactions, which in seclusion are not often called for; but are much more likely to be related to those impulses of a social nature which cannot become forcible so long as immediate response to stimuli from the environment is demanded.

If this be granted, then it seems to me not at all difficult to comprehend the emphasis in the race of the habits we are considering; most natural to find, as we do, that voluntary seclusion from the world has been emphasised in the habits of religious teachers from the earliest days of history.

§ 4. Fasting as an expression of religious feeling naturally comes before us for consideration at this point, because it has been, and is still, so closely connected with the habits of seclusion that we have just been studying. Indeed, fasting was almost necessarily connected with involuntary separation from the world in the desert; and quite naturally accompanied that seclusion which was undertaken voluntarily.

It is easy then to account for the origin upon occasion of habits of fasting, and we can conceive also how these habits, although arising in connexion with seclusion, might come occasionally to be followed apart from seclusion. But it is difficult, on the other hand, on any theory which implies that fasting was originally undertaken to satisfy individualistic longings, to understand the persistence of these habits; yet such persistence in the past through many ages is implied in the very existence of an instinct, the expression of which tends to develop naturally in a large part of the race, as we shall presently see is the case with fasting.

Surely the painfulness directly or indirectly connected with starvation cannot in itself be attractive. Nor are the hallucinations which arise so often as the result of lack of food attractive in themselves, as we have already seen; nor do they appear to ordinary men to be connected to any great extent with individualistic advantage; consequently in accordance with our argument in the last section, we are unable to agree with Tylor[1] that habits of fasting could have had their origin in the desire of the primitive man to produce voluntarily the exceptional nervous states favourable to the seeing of those visions that are supposed to give to the seer access to the realities of the spiritual world. And even if we could agree that fasting had this origin, it would not seem possible thus to account for its persistence in the race for a sufficient time to have become established as an organic tendency.

Nor can we account for the persistence of the fasting habit by reference to Mr. Spencer's somewhat imaginative hypothesis that fasting had its origin in the starving connected with the custom of providing refreshment for the dead; even if this hypothesis be well grounded it can at most account for the genesis, and not for the continuance of the habit.

For very clearly the habit is in its direct results not only of no advantage but of very great disadvantage to the individual, and hence indirectly to the race of which he is a member; for the ascetic who indulges himself thus, is liable to become weakened to such a degree that he may find himself incapable of self-protection against the adverse forces in his environment; a fact indeed which the most stupid of savages would be quick to appreciate.

But notwithstanding the fact that the custom of fasting altogether fails in attraction, and although it is easily seen to be opposed to individual welfare, still the habit is surprisingly persistent. Not only do we hear of the fasting of those great leaders who in the past have seen visions and heard voices guiding them to actions they would not have conceived of under normal conditions; but voluntary fasting is taught as a duty by many religious bodies in our day in all parts of the world; usually indeed in connexion with seclusion more or less rigid. Nor is the habit limited to people of this type, for we find fasting undertaken voluntarily by many pious people who do not at all believe in the hermit-like life of separation from one's kind.

[1] *Primitive Culture*, i., 277, 402; ii., 372.

Fasting in excess is a well-recognised means of producing hallucinations; but quite apart from such excesses, fasting in moderation, reducing as it does the vitality sufficiently to overcome any natural demand for spontaneous activities, must clearly aid one very materially to gain that racial inspiration which most easily arises when reactions of individualistic significance are not called for.

It seems to me then that in this fact we have an adequate explanation of the persistence in the race of this custom. Disadvantageous as the fasting habit might be from a purely individualistic point of view, it thus appears to be of advantage to the race in that it tends to conserve and foster that highly serviceable social grouping of which individuals are elements, and this suffices to account for its continued appearance amongst the individual elements of these social groups which are now in process of evolution.

§ 5. In connexion with the consideration of the habit of fasting our thought is naturally turned to a class of customs expressive of religious fervour which vary greatly in form, and which in any one form are noted amongst only a relatively small number of the race; all of which however have the one characteristic that they involve the voluntary assumption of bodily pain. The tortures of various kinds which have been undertaken for their own sake, and endured willingly and with joy by the saints of the past, need not be enumerated, and I do not think it worth while to treat of any of them in detail.

It would be almost hopeless to attempt to account for these habits, so complex in form, limited in each form to such small numbers, were it not that they are so closely related to the much more uniform habits of religious expression which we have already studied.

As we know them in historic times, among the people whom we think of as civilised, they have become closely connected with the widespread notion that the hope of salvation of the soul lies in the assumption of an attitude of contempt for the mere physical man. But it is apparent that this conception implies a high degree of intellectual development in the people adopting it, and its adoption must therefore have been late in the history of our race; hence it is most probable that this notion was suggested as a rational excuse for the continuance of religious habits already well established, but which seemed to require some explanation in accord with reasonable conceptions.

Here again we are dealing with habits which are in

themselves intrinsically unattractive to the individual, and which therefore would not have persisted in the race on account of their individualistic desirability. Moreover, they are habits which are evidently disadvantageous to individuals and would be seen to be so by any set of men of very moderate intelligence. Furthermore, it is evident that in themselves they might not infrequently bring serious disadvantage to the tribal group.

It seems clear, therefore, that there must have attached to these practices in the past some important advantage to the race, which has over-balanced the ever-present individualistic, and the occasional racial, disadvantage connected with them. But in the light of our previous studies of the habits of seclusion and fasting so closely connected with these more variable customs, it is not difficult to conceive that this advantage may be found in the aid obtained in connexion with these practices in the strengthening of the social instincts.

As we have already seen there is every reason to believe that in the states of hallucination which these practices often entail the deeper lying instincts tend to come to the mind: at all events the tendency to spontaneous individualistic action would be largely reduced by these very weakening processes which induced the hallucinations; and for those who gained these hallucinations the important fact, so far as the persistence of the torture habits is concerned, may not improbably have been the emphasis within the hearers, or the seers, of their tendency to listen for this guidance within themselves, which they thought to be commands to them from without.

But again we must not forget that the hallucinatory images occur to relatively few even of those who aim to gain them by undergoing these weakening processes; and yet the one who fails will be benefited as well as he who finds the more impressive guidance: for he too has gained that suspension of the individualistic tendencies that results from the processes of weakening, and therefore has indirectly gained the emphasis of the slower acting, deeper seated impulses of social import.

§ 6. It seems appropriate at this juncture to consider for a moment certain customs connected with the initiation into the mysterious brotherhood of the religious body; ceremonies which are evidently in themselves unattractive, and clearly disadvantageous from a purely individualistic point

of view, but which nevertheless have persisted in the race in a most extraordinary manner.

If, as we have already argued, the habit of restraint from individualistic reaction has been enforced often by the emphasis of the non-individualistic impulses in their most emphatic form under the abnormal conditions of hallucination; then it is not difficult to see how it might have come to be considered most important by the leaders who had once listened to these voices, or who had once seen these visions, to obtain what were thought to be "inspirations" in this hallucinatory form. More than this, those who were convinced of the value of these hallucinatory states would be naturally led to attempt to induce or even to compel others to gain these experiences.

But a large proportion of these rites involve extreme suffering and great physical weakening, which in themselves must be repulsive to the barbarous man, and which evidently are an immediate source of weakness to him and to the tribe at large: furthermore, it is certain that a very small proportion of those who submit themselves to these initiatory tortures do in fact gain these "messages"; consequently, even if the origin of these customs can be traced to the desire to gain states of hallucination or to force them upon others, the persistence of these customs cannot be thus explained.

And yet, although this be true, on the other hand it is equally true that those who participate in these rites place themselves under conditions that lead naturally to the same advantageous emphasis of the non-individualistic impulses that is given when the trance state is really reached; and it would appear therefore that if the habits connected with attempts to produce by compulsion these hallucinatory states persisted, as they have persisted, it might be not at all because the hallucinations, gained in relatively few cases, could be of value to the average man, but because the habits of restraint and of listening, which are of so much advantage to the race, would thus in the main be enforced.

We have here then it seems to me adequate explanation of the persistence of the barbarous initiatory rites which were found as we know amongst savage peoples of olden time and which in somewhat less cruel form have come down to our time in crude forms of religious worship.

Here we may note another fact which appears to be of no small value as corroborative of the position above taken; *viz.*, the fact that the performance of these initia-

tory rites is very closely related to the approach of the age of puberty in the active participants.[1]

That this relation between the time of the enforcement of these initiatory rites and the growth of sexual capacity is one to be expected seems to me clear; for at the age of puberty the boy and the girl have suddenly forced upon them racial leadings that have never before been felt; at this period of their lives they are compelled to attend to cravings of an organic nature that demand satisfaction and yet which are based upon no personal experience of previous satisfactions. The boy and the girl then become perforce introspective; and it is at this moment that the general teaching to listen to the "voices" within them would be most likely to prove effective.

§ 7. I shall now ask my reader to turn from the study of modes of religious expression which, when carried to excess, so often lead to the production of hallucinations, to the consideration of a special habit which of all religious habits is the most widely prevailing and the most persistent, and yet which in itself seldom if ever leads to the production of hallucinatory states. I refer to the habit of prayer.

In studying the habits of seclusion, of fasting, and of self-torture, we have had to deal with the theory that they originated and have persisted in the race because of the impressive hallucinations which they not infrequently occasion; but in relation to the habit of prayer such a theory can scarcely be upheld.

On the other hand there are many indications that prayer in its inception must have arisen in connexion with efforts to obtain mercy from human conquerors in the bloody contests which must have been common amongst the early ancestors of our race. Its expressive attitudes themselves tell this story. He who prays is found prostrate on the ground; or kneeling, with hands clasped, with head bowed, with eyes closed; and all these attitudes are suggestive of powerlessness to attack; of absence of aggressive tendencies; and of willingness to become the slave of a conqueror, and to listen and obey his command.

Habits thus acquired to meet the exigencies of savage life, might continue in force during those greater emergencies which from time to time come upon man apart from human agency, because of the notion that the peril in which the

[1] *Cf.* "The New Life," A. H. Daniels. *American Journal of Psychology*, vol. vi., 1.

savage found himself placed was the expression of the hostility of higher beings, of a God who was an avenging power, and whom the savage believed he must have offended.

But even if we suppose these habits of action to have thus originated they very clearly could not have persisted in the race because of the advantage that was thus supposed to attend them. They certainly could not have had the advantage to the individual in relation to his God that their prototypes originally had in relation to the conquering warrior; we recognise full well that the anthropomorphic conception of an avenging Deity fails under rigid examination.

But beyond the fact that these habits of action had not the individualistic advantage which may not unnaturally have been attributed to them by uncivilised men, they clearly must have been in themselves far from advantageous to the individual exhibiting them; for there being no all-powerful mysterious enemy ready to attack man, actions which in moments of danger, or perplexity, blinded the savage to real dangers, and which induced him to assume attitudes in which alertness was altogether precluded, might often lead to his great individual disadvantage; and they might thus also often bring indirect disadvantage to the race of which he formed a part. And even where direct danger was not incurred, it surely could be of no direct service to an individual to assume attitudes which preclude reaction to the forces in his environment, while still remaining in a state of mental stress which would preclude his gaining any of the recuperative force which comes with the inactivity of rest.

It seems to me clear then that the tribes in which these prayer habits became markedly developed would have suffered in the contest for survival, unless connected with these habits there had been some indirect and unrecognised advantage of sufficient force to overbalance the disadvantages above spoken of; and if it appear that these habits have persisted, then we are bound to assume that they had some special racial values quite different from those originally attributed to them. It is unnecessary for me to say even one word to show that the habit of prayer is an exceedingly persistent one in the race, having been characteristic of religious expression from the very earliest times, and being one of the most widespread of all habits of action with which we are acquainted.

When we ask ourselves what this indirect racial advantage

could have been that has led to the persistence of habits of prayer, our attention is again directed to the fact that all the bodily attitudes connected with prayer amongst devotees in the past, and amongst religious peoples of our own day, imply restraint and the listening for command; the calling for help and the awaiting for answer and direction; and we perceive that the mental attitude which these expressions involve is, as we have seen, the very one that would tend to subordinate the individual variant tendencies to the racial tendencies, that would lead to the suppression of individualistic reaction, and thus give opportunity for the slower acting racial impulses of broader scope to make themselves felt.

I think then that it may be held to be in the highest degree probable that the advantage connected with the hearing of the "voice," with the accompanying emphasis of racial impulses within us, must have led to the persistence of habits of prayer, whatever may have been the origin of these habits.

§ 8. Sacrifice is a religious custom which I do not need to tell my reader has been fixed in the race from the earliest days of which history and archæology tell us. The human sacrifice, the sacrifice of bull, of ram, of lamb, of precious goods involving destruction in all cases of what is valuable and useful; these and closely allied sacrificial customs have indeed tended gradually to disappear with the advance of civilisation. But the sacrificial custom remains with us in its essentials, expressed in the actions connected with the belief that the giving up of valued goods, and the voluntary relinquishment of that in life which we value most highly, are acts of worship that please our God and that are efficacious to our salvation.

We may take it for granted I think that in all probability these habits had their origin in attempts by men to gain individualistic advantage; to appease the wrath of enemies, and to ward off dangers that appeared in connexion with the action of their neighbours. But it is very clear that when these actions were undertaken in order to satisfy the wrath not of a conquering foe but of a supposedly irate Deity, as we know them to have been, they could not have had the same direct individualistic, or less direct racial, advantage; those who performed the sacrificial rite could not have gained for themselves or for their children the benefits they imagined they were thus to obtain. It is probable then that these habits would not have tended to be impressed upon the race by Nature, unless they had been in themselves

essentially attractive, or unless they brought to those who practised them other advantages than any that were realised.

But we do not have to say a word to show that sacrifice must have been essentially unattractive to the primitive man, involving as it did much loss of precious things gathered together with much labour which itself was abhorrent to his soul. Moreover sacrifice evidently involves reduction of individual resources and capacities, and danger therefore not only to the individual but to his tribe from those enemies who had not thus reduced their resources.

We must look then for other advantages than any that appear on the surface in order to account for the persistence of these customs. After the argument that has preceded this, I scarcely need to tell my reader that my thesis in reference to these, as in reference to the other religious customs already discussed, is that they have been enforced by Nature because of their value in establishing the mental attitude of submission of the will to the commands of God, as men have expressed it; or in other words in establishing the habit of the restraint of individualistic tendencies, and of appeal to the guidance of the racial impulses of social import.

The truth of this is evidenced in the very fact that the term sacrifice has been directly transferred in common language to apply to the voluntary renunciation or repression of individualistic tendencies; the term "self-sacrifice" in our everyday speech has come to mean self-restraint.

Moreover the very attitudes assumed in connexion with sacrifice are ones which are most valuable in the production of a full measure of reverential awe, which would prepare those who watched the ceremonial to give attention to what came to them as commands from those conducting the sacrifice.

The mere process of looking up withdraws our attention from the distracting objects around us, and arouses in us the powerful feelings accompanying the recognition of our own littleness, of the sublimity of what is not of ourselves, as all must realise who have lifted up their eyes to the mountain peaks, or who have worshipped in the noble naves of the Gothic cathedrals. The smoke arising from the altar naturally led the worshipper to follow with his eyes its upward curves, as does the incense burning in the ceremonial of to-day; led him naturally therefore to assume a reverential attitude of mind.

But beyond this, these physical attitudes tended to induce in him conditions distinctly opposed to the production of individualistic activities and therefore well calculated to

bring him into, and keep him in, the frame of mind in which the voice of conscience could most easily be attended to. But above all we must remember that the sacrifice in all religious ceremonial led up to prayer; and the value of prayer in bringing about the advantageous subordination of individualism we have already spoken of at length in the preceding section.

Celibacy, or the voluntary renunciation of the pleasures of sexual and family life, is a form of self-sacrifice which is widespread as a custom connected with religious devotion. It is without doubt true that not a small number of professed celibates do not altogether refrain from the gratification of their sexual passions; and yet if we eliminate this class of pretenders it must be acknowledged that an important proportion of men and women in all historic ages have voluntarily quenched their sexual appetites in assuming the celibate's vow.

That this voluntary assumption carries with it individual distress of marked type will not be disputed, and it is not possible to believe that it has been or is undertaken because of the intrinsic attractions connected with it.

That it is also on its face distinctly disadvantageous to the individual and acts in opposition to the persistence of the species is also clear. That it cannot directly conduce to the persistence of the race is evident when we consider that if it were carried beyond narrow limits it would lead to tribal extinction. That it is disastrous to many an individual life is also certain; for all who have knowledge of the subject will agree that the life of the celibate is beset with many dangers, in that it tends, as alienists tell us, to bring into existence extremely morbid mental conditions.

On the other hand we cannot but realise that these morbid mental conditions are just the ones that are liable to lead to the production of hallucinations, and that in adopting the celibate's life therefore one takes a step which is not unlikely to bring to him hallucinatory messages, which themselves might be thought to be desirable as guides from another world; and this might lead individuals to voluntary assumption of this form of self-sacrifice.

But in a previous section we have seen reason to agree that no such individualistic desire can account for the persistence of habits inducing these hallucinatory states; for to the mass of men hallucinations are far from attractive; moreover, we do not forget that to the mass of celibates no such hallucinatory messages are given. Here again, how-

ever, as with all other customs which are likely to produce hallucinations, we realise that those who acquire the habit, but fail to receive the message, nevertheless do gain in some measure an emphasis of those impulses which are of broader than individualistic significance. In this case the influences which are of a sexual nature being curbed, there is greater opportunity for the "higher" instincts of later development, for the ethical instincts of social import, to become prominent in mind. The very fact that the sexual nature is kept in check forces its demands upon the individual upon occasion while youth and health remain, and thus the celibate's attention is necessarily guided to those voices within him which can only be heard when one turns to introspective examination. This habit of introspective consideration, as thus aided, being once acquired will certainly bring about an enforcement throughout all of life of those impulses of an ethical nature which, as we have seen, require time for their development because they relate to general trends of action which appear only when we study long series of subordinate activities; impulses which cannot appear clear if our attention is fixed upon the individualistic demands of the moment, from which the celibate deliberately attempts to cut himself off.

§ 9. I must say a word here concerning the custom of making pilgrimages which has been of widespread occurrence among many religious people.

This custom evidently involves individual hardship, personal loss and tribal weakening; nor does it show on its face the distinct advantages in the direction of social advancement that I have been aiming to show exist in the case of all other notable religious exercises.

But the reader will recall, I think, that in the last article of this series I mentioned that we should expect to find that the social impulses would tend to be made dominant by actions which brought into strong relief the outlines of the social fabric; which emphasised the fact that there are social bonds, that there exists community of interests which must be dominant even where individual likings are occasionally crushed out, that mutual aid is necessary to our welfare as individual elements in social life.

The efficiency of these pilgrimages in this direction cannot be questioned: and it seems to me there can be no doubt that their value has been quite in line with that attached to the other religious habits that we have been studying, when we consider that they ended in sacrifice, in prayer, and in

other acts of devotion, these acts indeed being carried on with less emphasis during the pilgrim's journey and being looked forward to in their culmination from day to day.

This value of action in common with others of our race in the enforcement of the ethical impulses is clear I think in the development of worship in community, of which we cannot stop to speak at length notwithstanding the very great importance of the subject: and I may add that the same value attaches to the development of religious societies, and to the conventions and councils, the conferences and congresses, of religious people which are so marked a feature of our later civilisation.

§ 10. In looking back at the habits of religious people in the past as a whole I think we cannot fail to realise that the most important of all religious activities have been, as they still are, the customs which bring the common man to gain the attitude of prayer in companionship with his fellow-man; and this because when men gather in great masses they unwittingly learn of their social dependence, this impression adding to the force of religious ceremonial in tending to repress the emphasis of individualistic impulses.

Among the lower races some individual gains in one way or another the habit of restraint; he sees a vision, notices a voice commanding him, or perhaps merely hears the "still small voice of conscience". He interprets this as an inspiration, as a revelation, as a message from his God. He tells this to his people, and if he be a man of force they, dimly feeling the impulse which he feels powerfully, obey his call, which answers to some extent to the vague impulses within themselves. They call him their prophet; his God becomes their God and with their prophet they learn to pray. He teaches them to assume the attitudes of prayer which have been effective for himself and which in turn also become effective in enabling them, his followers, to hear the voice that is leading him.

But there must be those who cannot hear the voice even thus, and to such we should expect to find teaching given by the ethical leaders; as a matter of fact this habit of teaching is universal with all higher developments of religious custom. Having through fear or other means produced in his hearers the attitude of mind in which they are best able to hear the "voice," the prophet teaches them what this "voice" has said to himself, and if he be an ethical genius he blows into flame a fire that was ready to

kindle within the souls of his hearers; he calls to their attention impulses which they recognise as their own when he tells of them, impulses however which they would not have perceived had he not spoken to them.

§ 11. If the preceding argument has appealed to my reader he will agree that the function of religion which lies back of its ceremonial is the suppression of the force of individualistic, elemental impulses in favour of those which have higher significance.

But we have seen in what has preceded this that the latest elaboration of the tendency to elemental variance is what we know as Reason. And it is equally clear I think that in self-restraint and individualistic suppression, in the cry for aid and guidance, we gain that complex psychic state which we know under the name of Faith. It would appear then that in relation to our modern complex and self-conscious intellectual life the function of religion will lie to a great extent in the restraint of Reason and its subordination to Faith. It is most natural then to find that religious leaders in all later times have emphasised this teaching. Especially in the teaching of the Christian Church do we find ever recurrent this dictum that reason must be subordinated to faith.

§ 12. Here our argument must rest. In what has preceded this I have written with no desire to make thoroughgoing explanations, in conformity with the notions of modern science, of the religious experiences of the past and of those that influence us in our day. So far as such explanations are possible and desirable they have been presented more fully and more ably than I could hope to perform any similar work even if I wished to attempt it.

What I have been concerned to suggest is a reply to the question which forces itself upon our notice. If Religion be an instinct which has been acquired by the human race, what special function does it serve in the development of our race?

Although Nature in forming this religious instinct may have built it up (so to speak) out of habits formed for other purposes, using them as they served her higher end; still it may well be claimed I think that these habits have to a great extent *persisted* not because of their original values, but on account of their worth to the race as means of emphasising the subordination of the variant individual principle to the racial principle; of repressing the immediate

response to impulses which are only of individual import, and compelling delay until those of more far-reaching importance can present themselves; of forcing upon us the habit of waiting for and subordinating ourselves to what is conceived of as the command from a power higher than any recognised in our immediate natural surroundings; of enforcing the habit of listening to the "still small voice of conscience".

This, it seems to me, we may well claim to be the main function of religious expression, a function of sufficient importance to account for the persistence in the race of the habits related to religious service. Yet it must be noted that this claim does not preclude the existence of other functions of value to life, which may be pointed out by some writer more familiar than I am with biological lore. And especially must it be noted that this claim does not in any way indicate that in gaining a conception of the biological functioning of religious expression, we have sounded the depths of the significance of religion itself to the souls of men existent in this Universe, which we so imperfectly comprehend.

§ 13. And now, in closing this article, I must ask my reader to recur once more to the thought so often reiterated, that the religious customs we have been considering are all tools, so to speak, which Nature has used to enforce restraint; and I wish to emphasise the fact that this restraint is of the very core and essence of religious functioning.

Many a man declines to call himself religious because he cannot subscribe to the dogmatic statement of special religious bodies; because he cannot bring himself to join with them in worship, or to follow their habits or customs. But if my analysis be correct he may be, for all that, a thoroughly religious man; provided only he finds within him an impulse persistently leading him to restrain his individualism and to give his social instincts full play; provided he strives to follow the order of impulse emphasis which Nature is endeavouring to impress upon him, in order to produce in him the subordination of the individualistic instincts, as modified with relation to reproduction, to those which have social significance; provided, in other words, he lives a life subject to the call of duty. Many such men we know who are without the bounds of the Churches.

This leads us to see that if we take a slightly different view we may state our conclusion in terms more strictly

ethical. The space at my command precludes the possibility of dealing adequately with such a statement, but I think the reader will agree that we find ourselves led to hold that the religious instinct, if we allow ourselves to be guided by it, compels us to act out the best that is in us impulsively, without the necessity of waiting for the slow processes of argument and conviction. It does not in itself perfect our moral code, that is a matter of individual development and individual effort; but it does serve the purpose of giving to us an instinctive tendency to express and to strengthen the best that is ours by Nature's gift, as our moral life unfolds. This it is that a man gains when he falls under the sway of the religious instinct: a tendency has arisen within him to give his higher instincts full play, a tendency which itself has become instinctive.

IV.—ON THE NATURE OF THE NOTION OF EXTERNALITY.[1]

By Howard V. Knox.

I.

The present paper has for its object to elucidate the true nature of the notion of externality, and to show that it forms the foundation of the whole of our knowledge. As a background for the views here advocated, I have singled out the formula, *Scientific law describes the routine of our perceptions*—not by reason of any high degree of philosophical merit in the work devoted to its exposition and defence, but chiefly[2] because it contains, neatly packed in a small compass, a sweeping denial of every one of the propositions which it is my aim to establish. Before, however, proceeding to attack this formula, it will be advisable to give some typical quotations from the book from which it is extracted, so as to be quite sure that we are doing the author, Professor Karl Pearson, no injustice :—

"If the reader once grasps the characteristics of this law of Newton's [the law of gravitation] he will understand the nature of all scientific law. . . . Such laws simply *describe*, they never *explain* the routine of our perceptions, the sense-impressions we project into an 'outside world'."[3] "While in the nature of perceptions themselves there appears nothing tending to enforce an order, D, E, F, G, rather

[1] The views here advocated are in the main identical with those set forth by Mr. Stout in his article on "The Genesis of the Cognition of Physical Reality" (Mind, xv., No. 57); but the general standpoint is somewhat different.

[2] Another reason that has helped to determine my choice is that Professor Karl Pearson, by his mode of treatment, is apt to bring into discredit the very cause which, at bottom, he is seeking to defend, and in maintaining which I am entirely at one with him—the cause, namely, of science *versus* (so-called) constructive metaphysics.

[3] *The Grammar of Science*, p. 119.

than F, G, D, E, there is still a real need, if thought is to be possible, that the perceptive faculty should always repeat the sequence in the *same* order. In other words, repetition or routine is an essential condition of thought; the actual order of the sequence is immaterial, but whatever it may be, it must repeat itself if knowledge is to be possible. We express this briefly in the law: *That the same set of causes is always accompanied by the same effect.*"[1] "When we scientifically state causes we are really describing the successive stages of a routine of experience."[2] "Cause is scientifically used to denote an antecedent stage in a routine of perceptions."[3] "Change of sense-impression is the proper term for external perception."[4] "Scientific law . . . is a brief description in mental shorthand of as wide a range as possible of the sequences of our sense-impressions."[5]

Full of errors as is the formula above alluded to, our immediate concern is with only one of these, but that the most important: in upholding which, however, Professor Karl Pearson—in justice to him be it said—is merely echoing a doctrine first given clear utterance by the truly great Berkeley; a doctrine, too, that forms an integral part of the causal theory of Kant.

There is not any routine of perceptions. In order to the substantiation of this contention in a preliminary manner and in the fewest possible words, it may be pointed out that the cause (essential antecedents) of any physical phenomenon that comes under our personal observation may itself elude observation by happening before our attention is turned to the series of events in question. In such cases the cause (*i.e.*, what is scientifically reckoned as such) of the phenomenon is entirely absent from the series of actual perceptions: while even in imagination (representation) it is not present to the mind until, at best, after the occurrence of the effect. According to Professor Karl Pearson's formula, on the other hand, the cause would always have to be sought for among the perceptions which precede or accompany the effect. Nor can the theory be even partially saved by saying that in such cases the representation of the cause is scientifically to be regarded as the actual cause; unless—to mention only the most obvious objection to such a course—we are prepared to sacrifice the axiom that "the

[1] *The Grammar of Science*, pp. 162-163. [2] *Op. cit.*, p. 156.
[3] *Op. cit.*, p. 180. [4] *Op. cit.*, p. 330. [5] *Op. cit.*, p. 135.

effect is subsequent to, or at most synchronous with, its cause". That axiom is, indeed, purely verbal, so that to deny it would be a self-contradiction. The succession of events, then, that physical science deals with, does *not* run parallel with the series of mental phenomena. Thus we have to distinguish between the stream of consciousness, and the course of physical events as these are *thought* by us. The existence of physical science is an index, not of the presence, but of the absence of routine in perceptions. Before proceeding to enforce this point, we shall do well to obviate one or two possible misconceptions which might arise as to the nature of the distinction which it is sought to establish.

"When," the reader may object, "we ascribe physical effects to causes which fall outside our actual experience, all that we mean is that under such-and-such conditions we should have experienced such-and-such sensations. Consequently we are by no means compelled to the idea that these events really existed in themselves." To which the reply is that at present all this may well be granted, for the sake of argument—though later we shall have something more to say on this same head. At the present stage of our inquiry, we are not called upon to draw from the necessity of the distinction in question any conclusion as to the 'reality' of an external world. It is only with the reality of the distinction that we are here concerned. We may describe it for the present, if we like, as a distinction between the course of mental phenomena as they actually occur, and their course as they would occur, or would have occurred, under certain conditions.[1]

There is a second possible misconception that has to be guarded against. The distinction under discussion is closely connected with another, which, in its own place, is no less important;[2] but we must be careful to keep the two apart. This other distinction is the one drawn between events as they appear to us, and the mode in which they are thought of as happening in themselves; or between our actual perceptions, and explanations (in Professor Pearson's phraseology, descriptions) of these after the manner of what have been called "representative fictions". Such are the explanations of the phenomena of light by the

[1] Though, as will subsequently be shown (part ii.), this is not strictly accurate, it is sufficiently near the truth for our immediate purpose.

[2] It is, in fact, essentially a refinement (as we shall see presently) on the general distinction immediately under discussion.

wave theory, and of chemical processes by the atomic theory. The essential difference between the first distinction and this one, may perhaps be sufficiently expressed by saying that this distinguishes between the *nature* of physical events as they appear to us, and what is thought of as being their true nature; whereas the former, that with which we are here specially concerned, is drawn between the *order* in which perceptions make their appearance (or, rather, their want of order), and what is thought of as being the true order of physical events. Having thus cleared the ground, we can now resume our general argument. Let us take one or two examples of the simplest possible kind.

We go out for a stroll in the woods, and have our attention attracted by a wild flower. Can we 'account for' that flower being as it is by an examination of the sensations, thoughts, etc., which were passing through our mind previous to our coming in sight of it? No, we refer the completed stage of the flower to a connected series of events different from these. We consider it as having sprung up from a seed; and, if botanically inclined, represent to ourselves its different stages of growth with all the processes, chemical and physical, on which that growth is dependent. We resume our way, when suddenly we hear the sound of a tree-limb snapping overhead, and step aside just in time to avoid it in its fall. Does that sound follow, as effect on cause, on the mental phenomena which preceded it? Is the cause even of the bough's fall to be found in the noise which, it is granted, is so far connected with that event as to have served as a warning to us? Again, no. To 'account for' the fall, we examine the fallen limb, and find traces of where a large fungus has been eating into the junction between it and the trunk. We conclude that this gradual growth has, by destroying the vitality of the branch and so rendering it unable to support its own weight, brought about the occurrence in which we are interested. But we have never seen that fungus, or been otherwise aware of its presence, until *after* the event in question; when we imaginatively reconstruct the causes to which that event is due. Thus we cannot explain the occurrence without going outside the mental experiences which preceded it, and, in point of time, led up to our perception of it.

These examples have purposely been chosen from changes in inanimate nature. But exactly the same principle applies, so far as the individual consciousness is concerned, to events in which other conscious beings play a part.

So naturally and irresistibly, especially in the case of sight, do we carry on the process of thus reducing events to intelligibility, that it requires a great effort to concentrate attention on the succession of perceptions simply as such. Perhaps the easiest way to thoroughly realise that there is no routine in perceptions is to close our eyes in some place where a variety of sounds are to be heard, either in the country or on a busy street; and to avoid, so far as possible, the 'outward reference' of our sensations. We shall, I think, have to admit that there is no rule by which the series of sounds that we call a chaffinch's song should suddenly follow on that series which we call a blackbird's song, or why the latter should towards its close be mingled with what we regard as the separate sound of a cow lowing in the distance.

So far we have been considering events the supposed antecedents of which lie outside consciousness. But precisely the same thing holds good if we regard the matter from the other side, and consider the forward progress of events. We can always break off our perception of a connected series of physical changes by simply turning our back and walking away. This truth applies equally, of course, to cases where there is no voluntary breaking off of perception; as when a meteor flashes into sight, only to disappear instantly from our gaze. In such cases the last perceived stage in the series is not followed, *in perception*, by that which is reckoned as its proper effect, or the proper succeeding stage. In other words, so far as our perceptual experience is concerned, it is not true that the same antecedents are always followed by the same consequents. There is routine (or what may be regarded as such) and we perceive bits of it; but there is no routine *of perceptions*.

The fact is that disconnectedness of perceptions is not the exception, but the rule, for anything but very short periods of our mental life. And from what has gone before it follows that even when the perceptions are not disconnected (*i.e.* even when they do relate to a connected series of physical changes) this does not constitute a "routine of perceptions". For this thread of perception may be taken up or broken off at any point.

The contrast between sequence in sense and the order of physical events is, in truth, even greater than is apparent at first sight; for where an untrained observer thinks he has actually perceived all the details that go to make up a given complex of phenomena, a rigorous examination will

show that he has imaginatively, but 'unconsciously,' supplied many links missing from actual perception. The facility with which observation is unconsciously supplemented by inference is, indeed, a common-place of logic, and is a familiar fact to all who have had to sift evidence. At the same time, as the complement of this, we have the fact that we habitually neglect in any observation what we consider irrelevant concomitant sensations, which are regarded as belonging to a different series of events; as when in a chemical experiment we neglect the noises in the street.

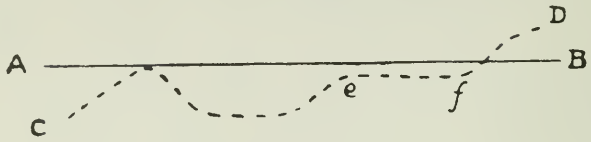
Both the neglect of 'irrelevant' perceptions and the imaginative supplying of what is missing in perception are, however, most clearly marked where the 'irrelevant' mental phenomena are not concomitant with our observations, but intervene between different stages of these. When an astronomer, for example, resumes his observations of a planet which he has been studying the night before, he neglects the intervening perceptions and psychical states in general. He does not seek to tack his present perception of the planet on to these mental phenomena, which in point of time led up to it; but he connects his present observations with those of last night, by imaginatively reconstructing the progressive shifting of position, as between the planet and the earth, which has proceeded independently of his perceptions, thoughts or emotions. It is only from this point of view, it may be remarked in passing, that the doctrine of the continuity of the path of motion is anything but ridiculously false.

It is, I fancy, needless to multiply examples in support of my contention, and, indeed, I feel that an apology is due to the reader for what may seem the absurd length at which I have dwelt upon the discontinuity in perceptions. My excuse must be that this important truth has been too long neglected. Ueberweg is almost the only considerable philosopher who has insisted on the fact that perceptions do not succeed one another in a regular order.[1] The result of this neglect is seen in the possibility of such productions as the *Grammar of Science*.

We may diagrammatically represent our results by the

[1] In the notes appended to his translation of Berkeley's *Principles of Human Knowledge* under the title of *Berkeley's Abhandlungen über die Principien der menschlichen Erkenntniss* (second edition, 1879): see especially Notes 45, 56 and 77.

adjoined figure,[1] where the straight line AB represents the



succession of mental phenomena; and the curved (dotted) line CD any series of physical events which sometimes runs parallel (*ef*) with that stream, while at other times it is separate from it. For the purpose of reducing the chaos of sense to an intelligible order, we have to suppose that percepts answer to something which runs its course independently of perception, and consciousness in general. (In actuality, of course, no single strand of the causal web can be completely isolated from all the rest; so that our line CD represents an extremely artificial simplification of the case. This fact lends additional strength to the doctrine of the absence of routine in perceptions, but it is unnecessary to dwell on it just now.) For physical science, *qua* physical science, the distinction between the stream of consciousness and the course of physical events is an ultimate one. The question whether this distinction, with the idea of independent existence which it involves, can be philosophically *reduced* to a distinction between actual existence in consciousness and what may be called potential subjective existence, will be considered in part ii. At present we are only concerned with the fact that the distinction is a real one, and involves the idea of existence which is independent of consciousness.

This idea of things existing independently of consciousness—not merely, be it observed, independently of the individual consciousness—is, typically, the notion of externality. It is true that 'other-consciousness' is external, in the sense of being external to *my* consciousness. But the orderly march of physical events does not enter as such into the conscious content of any one of us. The distinction between (*a*) the experiences which in point of time lead

[1] This diagram bears much resemblance to one published by Professor James in an article in the *Psychological Review* for March, 1895, in illustration of a distinction much resembling at first sight the one here under discussion. The essential difference between the distinction in that article and the present one, is that the former treats of 'things' as present to perception, and as thought of when not perceived; whereas our distinction refers to *events*, being drawn between the *changes* of the physical world and changes in consciousness.

up to the realisation in sense-perception of any material object or event, and (*b*) the conditions which led to that event taking place, or that object being as it is—this distinction is equally good in the case of each individual. And it is the physical world *as such* that supplies just that commonly objective standard of reference which makes human intercourse and language possible. We must especially note that just as my knowledge of the psychical states of others does not make them *my* psychical states, inasmuch as I know them *as* the states of others; so our knowledge of an event which at the time of its happening is not perceived (perhaps not even known to be happening) does not make it an event of consciousness, inasmuch as it is known *as* an event which did *not* happen in consciousness. In any case, to say that the representation of a thing is the thing itself, would at the very least be the same as saying that representation is presentation, that thought is sense-perception, that memories and expectations are present sensations. And even so we should not arrive at an orderly arrangement of mental phenomena: see p. 205. Consciousness of routine is very far from being the same thing as a routine of consciousness. In short, physical events are just those which cannot be treated as psychical events, *i.e.* as existing solely as members of some actual psychical series. Thus the physical world is *the* external world to each and all of us; and we are justified in considering "the physical world" and "the external world" as interchangeable expressions.

That we do distinguish in such wise between the stream of consciousness and the external world, is simply a matter of psychological fact; whatever the utility of the distinction may be, and whatever its metaphysical significance. (But I think we are now justified in going further than this and asserting[1] that the notion of externality is the most essential of all notions for the purpose of introducing order into what would otherwise be a mere sensuous phantasmagoria.) Thus in science we do not describe a routine of experience, but we (psychologically speaking) *make* a routine of things in general through the mediation of the notion of externality.

Herein, it is to be observed, is involved the falsity of the causal theories both of Hume, as commonly understood, and of Kant—though that of Kant contains a very important

[1] That the foregoing considerations do fully justify this assertion will be more completely shown in part ii., which may be regarded as an answer to a possible objection against the assertion in question.

element of truth. For, so long as our attention is confined strictly to our perceptual experience, there is no causation, no orderly succession of events, but mere chaos. On the other hand, our distinction enables us to give a meaning, which is otherwise lacking, to the separation of psychology from the other sciences. We can now say, without self-contradiction, that psychology has for its province the stream of consciousness, in contradistinction to the physical sciences, which deal with the external world. It will be remembered that Kant says: "We never, even in experience, ascribe the sequence or consequence (of an event or something happening that did not exist before) to the object, and distinguish it from the subjective sequence of our apprehension, except when there is a rule which forces us to observe a certain order of perceptions and no other: nay, . . . it is this force which renders the representation of a succession in the object possible".[1] This I would venture to correct as follows: We should not distinguish between the subjective sequence of our apprehension and the course of events in the external world, were it not that thus alone are we enabled to introduce among our perceptual experiences a coherent order which in themselves they do not possess.

From the manner in which the notion of externality is arrived at, it is clear that it refers primarily not to 'objects,' simply as such, but to physical *events*. But, in the first place, inasmuch as events in the physical world are known to us as changes in and among, and actions and reactions between, material bodies, it follows that these bodies must, at least so far, be thought of as themselves external. But, further, it is impossible, when once we have admitted the necessity of the notion of externality as regards material events, to avoid allowing it to apply to all material bodies *qua* material: because (1) a thing can only be understood with reference to its history, and this has to be distinguished from the experiences which in point of time may lead up to our perception of it (see example, p. 207); (2) it is impossible to follow out in imagination the course of material events in dissociation from the relatively permanent parts of the material world; (3) every material object has to be regarded as at least the possible subject of changes—either internal changes, or changes of position.

Strictly speaking, it is pure tautology to say that material things are to be regarded as external: so that the above

[1] Max Müller's *Kant's Critique of Pure Reason*, vol. ii., p. 172.

'reasons' for so regarding material bodies must be taken rather as setting out implications of the phrase "material body". For not all presentations (*e.g.* things seen in dreams and 'optical illusions') are called material, but only such things as have to be affiliated to the external world. That the belief in the externality of an object is associated in a special manner with the sensation of touch, is only to be explained by the fact that, in practice, that sense is the best direct *test* of externality: the feeling does not *contain* the belief in the externality of that which is felt. At the same time, the test in question is one which is peculiarly applicable to 'objects' as such, rather than to changes in objects; and this is probably the source of the prevalent errors concerning the nature of the notion of externality itself.

Having once got hold of the notion of externality, it is not necessary to imagine the external world as being in the exact form of our perceptions, if by representing it in some other way we can more successfully achieve the purpose of introducing order into the chaos of sense. But in some form or other we *must* imagine it, if that purpose is to be fulfilled in the slightest degree. It may be whittled down to what is, by comparison with the fulness of perception, the veriest thread, but we cannot dispense with it altogether. To attempt to do so is as if a performer on the tight-rope, unduly exultant in his own prowess, were to essay to walk from bank to bank of the Niagara abyss on the insufficient air.

This is what was meant by saying (footnote, p. 206) that "representative fictions"—and in general, it may be added, the distinction between primary and secondary attributes of matter—are essentially a refinement on the primitive distinction between the stream of consciousness and the external world. That "representative fictions," whatever else they may be, are not descriptions of the "routine of sense-impressions," is obvious from the fact that there is no such routine to be described. And that they do not *describe* our sense-impressions in any ordinary sense of the word, is obvious from the admitted fact that, *e.g.*, light waves do not *resemble* our colour-sensations. To describe a thing is to describe it as it is, not as it is *not*. Briefly, no amount of description of the cause of any event will of itself convey an idea of the effect: and the 'facts' treated of in these theories are supposed to stand to the sensations (or the underlying neuroses) in the relation of cause to effect. Professor

Pearson has a perfect right, if he chooses, to use the word "description" in the sense in which every one else uses the phrase "causal explanation":[1] but he would have done better to inform us that it is to the sound and not to the sense of "explanation" that he takes exception.

II.

Any treatment of the question of externality would be incomplete if it did not include some notice of the theory (alluded to on p. 206 and p. 210) that in thinking and speaking of material things and events which are not actually objects of perception, we mean merely that on fulfilling the appropriate conditions, those things or events "would be perceived".[2] For the sake of reference I will call this theory *Apologetic Idealism*, since it plays so large a part in attempted reconciliations between idealism and science. We have now to consider whether this theory will hold good in face of the leading results arrived at in part i.

First of all, it must be noticed that Apologetic Idealism is obviously intended to provide a substitute for the idea of unperceived existence; in the sense that it seeks to reduce this idea to lower terms, so to speak. Therefore the "conditions" it speaks of must be *mental* conditions (*i.e.*, pure modifications of consciousness), and must not be conceived as appertaining to the external world: otherwise, we shall have re-introduced the original idea of unperceived existence, and thus completely stultified our-

[1] See, *e.g.*, footnote on p. 312 of *The Grammar of Science:* "As every external perception is a group of sense-impressions, and as our senses are limited, the atom, if a real phenomenon, could only appear sensible by colour, hardness, temperature, etc., the very sense-impressions it is conceived to describe. Hence, if the atom is to be *not* these things but their source, it may be truly termed *imperceptible*." Though this passage is not particularly luminous even if the word "explain" is substituted for the word "describe" in it, it is in still worse case if we do not effect this substitution. Professor Karl Pearson fails to see that even if we discard 'efficient causes' there is still a useful distinction between description and explanation. As it is, he leaves the origin of the fallacy of efficient causes quite *unexplained*.

[2] This special theory has to be distinguished from the general theory, which is not here made an object of attack, that all experience can be resolved into subjective elements, which fact indeed is obvious, seeing that "subjective" = "forming part of experience". My argument, in fact, is not that experience cannot be expressed in subjective terms; but, that it cannot be reduced to subjective *laws*, pure and simple. There cannot be such a thing as a pure science of mind, free from all admixture of physical science.

selves. At the same time, by the terms of the theory it is admitted that the perception *is* conditioned. Further, these mental conditions must be the *exclusive* means of realising the potential sensations: otherwise the 'existence' of the object does not imply *merely* that on the fulfilment of the appropriate mental conditions it "would be perceived". Finally, the conditions must admit of being specified: otherwise there is no meaning in speaking of them as conditions. To say that a phenomenon is conditioned, is to say that under certain circumstances, or certain sets of circumstances, it will always happen—but *only* under such circumstances.

I have not, as will be readily believed, the slightest intention of disputing that certain trains of sensations, etc., if themselves realised, may *in point of time* lead up to the realisation in sense-perception of the as yet unperceived objects—and this even if these trains are completely irrelevant to the given end. But the above analysis of Apologetic Idealism brings to light the fact that it implicitly asserts that the actualised perception follows *by rule* on the mental states which precede it. In other words, it asserts that the determining factors of perception are, exclusively, mental states. If this is not the meaning of the theory, it is impossible to say what it does mean.

Now it has been shown in part i., not merely that there is no routine in perceptions; but also that, as a matter of psychological fact, we always do distinguish between, on the one hand, the experiences which in point of time lead up to the realisation in sense-perception of any material object or event; and, on the other hand, the conditions which led to that event taking place, or (supposing it granted that everything has had a history) to that object being as it is, both in respect of its position and its characteristics. Well, if the determining factors of perception were exclusively mental states, there would be a routine, if not in perceptions taken alone, at any rate in mental phenomena considered as a whole: and consequently there would never be any need to distinguish in this way between the history of the material thing itself, and the experiences which in point of time lead up to its perception. The fact that we actually do employ the notion of externality as a basis for rationalising our perceptual experience, indicates that no more direct method is available.

Thus the distinction between the stream of consciousness and events in the external world, involves also a

distinction (though not an absolute one) between the stream of consciousness and the conditions which antecedently determine any given perception—in the sense of determining the sensation or sensations which form the groundwork of the perception. Though this point will probably, in the light of the examples given in part i., be already fairly clear, it may perhaps be as well to illustrate it by a simple example *ad hoc;* in which, to avoid giving ourselves any special advantage, the thing to be perceived shall itself be a relatively fixed and permanent object.

Let the unperceived object be an uninhabited island in mid-ocean. What train or trains of mental phenomena are necessary to its realisation in sense-perception?[1] Obviously, none at all. A shipwrecked sailor may be cast on that island after days and nights spent on a raft at the mercy of wind and current, without any means of fixing his position, and without any variation in his perceived surroundings of limitless ocean and leaden sky. He may even be cast ashore in a state of unconsciousness, and waking find himself on dry land. Merely, however, to say that he has no means of fixing his position, is to say that so far as his sensible experiences are concerned, he might be *anywhere* on the surface of the ocean. Therefore his meeting with the island does not follow on these experiences by rule, as one member of a routine-series on another.

Now though the example that has just been taken, having been selected (within our self-imposed limits) for the sake of brevity and clearness of exposition, represents a somewhat extreme case, it will be evident, on a little reflexion, that a parallel case is offered whenever any material object or event comes 'accidentally' under our notice; "accident," in this connexion, implying the absence of purpose.

From this it follows that even when, *e.g.*, a navigator

[1] It might have been thought unnecessary, were it not that this seemingly palpable *ignoratio elenchi* had actually been committed, to point out that Apologetic Idealism cannot be saved simply by saying that, "If any one were *there* the island would be perceived". What meaning is directly conveyed by "There," other than, or more definite than, that of "There where the island is"? But this is to think and speak of the island as being somewhere, *i.e.*, as 'existing in space': and the question which Scientific Idealism undertakes to answer is precisely the question as to *the nature of this existence*, when the island is not actually perceived. So far as it is thought of as being somewhere in spite of not being perceived, it is thought of as a part of the external world; but Apologetic Idealism, if it has any meaning, is surely intended to get rid of this conception of a world in space that continues outside consciousness. In short, the very question at stake is the implication of the word "there," when used in reference to things which are not actually perceived.

purposely directs his ship to our island by means of the appropriate observations as to position, etc. (*i.e.*, by means of taking the physical conditions into account), his mental states are not the essential determining factors in the case. The psychical states only enter into the result as enabling him to fulfil, *in the body*, the appropriate *external* conditions: for, as we have seen in the case of the shipwrecked sailor, those states can be dispensed with, provided that these conditions are fulfilled.

To this last assertion it may be objected that we have here virtually acknowledged: "that though these mental factors are not the indispensable means of arriving at the given result, yet, if at any time we could exactly repeat the initial experiences, *together with the appropriate volitions*, the final result would be the same. In other words, if we, so to speak, put ourselves in the perceptual track of any causal sequence, we can follow it up to any point we like: so that there is a routine of mental phenomena, so far as that particular result is concerned."

This, however, is not so; the chief reason being provided by the fact that "in actuality no single strand of the causal web can be completely isolated from all the rest" (p. 210).[1] It continually happens that we do repeat all the appropriate conditions so far as these enter into consciousness, and yet the result miscarries—owing not to any difference in any of the circumstances that enter into our consciousness at the outset, but, as would be the case supposing our navigator's instruments were to go wrong, to some change *which has to be interpreted in terms of an external world.* To vary our example in a way which may perhaps bring out this point even more clearly: We embark on board ship, but, instead of reaching our destination as on a previous occasion, are wrecked upon a hidden reef which has come near the surface since our last voyage. Thus the primary conditions determining the perception of material objects and events, have themselves to be regarded as external.

This fact of having to comply with external conditions, and of having to adapt our conduct in accordance with what we take to be changes in those conditions, if we wish to attain any result in the material world, is, indeed, the

[1] It is also to be noticed that the volitions must be based on, and in a sense express, beliefs concerning the physical world *as such:* and in seeking the origin of these beliefs, whether with regard to their general or their special features, we are forced back on experiences which volition has had no direct share in bringing about.

cardinal feature of our everyday life. This fact, too, it is, which gives meaning to the saying, that it is unfair to judge of the wisdom of an action merely by its results. In more general terms: Just as the science of psychology can only be separated from the other sciences by distinguishing between the mental and external worlds; so the fundamental principle of biology, that the organism must be in harmony with its material environment, can only have meaning given to it by supposing that environment to have an existence separate from any consciousness that the organism may possess. So intricate and so widely spread is the web of physical causation, that it is impossible for any one to gather up all its threads into his perceptual experience. The perception of one thing means the non-perception of other things: while, at the same time, the unperceived things must be taken into account. This it is that constitutes the unity of Nature.

In this part we have so far only been concerned with the conditions which may be specially distinguished as antecedent to perception. But the *mechanism* of perception has also to be regarded as belonging to the external world. Psycho-physics, in fact, is simply the science which correlates 'states of consciousness' with the causal sequence of physical events in general—the brain being itself a physical structure, and the changes wrought therein being regarded by psycho-physics as determined by the rest of the material world. But without an *external* world, as was shown in part i., there is no physical causation at all; we saw, in fact, that the idea of physical causation presupposes (or rather contains) the notion of externality.

Psycho-physics being thus absolutely committed to the assumption of externality, it is absurd to look to it for any solution of the 'question' whether that 'assumption' is ultimately true. This conclusion is so important, especially in connexion with the relation between neuroses and psychoses, that it will repay us to look at it in this connexion from a more general point of view.

In the first place, no one has ever actually perceived, even in some other living being, the neuroses which underlie psychoses. They are entirely a matter of inference, justified by bringing the more directly known facts of the external world into a comparatively harmonious and intelligible order. But even if we could perceive the neuroses in others, this perception would be exactly on a par with

any other perceptions of events beyond our own brain (and would, like these, inevitably be subject to discontinuity).

Now, in the nature of the case, the neurosis underlying any psychosis can never be directly known to the sentient individual; just because it gives rise to the appropriate phase of consciousness, and not to a perception of itself.[1] Otherwise we should have perceptions of nothing but changes in the brain. That is to say, all our knowledge of the physical world is based upon our perceptions of that part of it which lies beyond our own brain. Our neuroses are caused by the physical processes connected with these other bodies; but it is only from our knowledge of these bodies (*i.e.* the perceived world at large) that we can infer the existence of the neuroses. From which last fact it follows that whatever kind of reality accrues to our neuroses accrues *a fortiori* to the perceived things which excite them; but that any attempt to gauge the reality of the latter by means of our knowledge of the former, must involve a fallacy of one kind or another—the exact kind of fallacy depending, of course, on the nature of the would-be argument.

Hence the futility of attempting—as do, for example, Schopenhauer[2] and Professor Karl Pearson[3]—to prove that

[1] Much in the same way, the hypothetical ether, being the *medium* of vision, is in its nature incapable of being itself seen.

[2] "One must indeed be forsaken by all the Gods, to imagine that the outer perceptible world . . . can have a real objective existence outside us without any agency of our own and that it can then have found its way into our heads through bare sensation and thus have a second existence within us like the one outside" (*Fourfold Root of the Principle of Sufficient Reason*, chap. iv., sec. 21, in Bohn's Philosophical Library). See also, for an illustration of this idea, *Parerga und Paralipomena*, vol. ii. sec. 33, p. 49. (seventh ed.); and in especial the last two sentences of the first paragraph.

[3] "Turn the problem round and ponder over it as we will, beyond the sense-impression, beyond the brain terminals of the sensory nerves we cannot get. Of what is beyond them, of 'things-in-themselves' as the metaphysicians term them, we can know but one characteristic, and this we can only describe as a capacity for producing sense-impressions, for sending messages along the sensory nerves to the brain" (*The Grammar of Science*, p. 81). See, however, more especially *op. cit.*, chap ii., sec. 11, which is too long for quotation here. Professor Karl Pearson acknowledges, by the way (*op. cit.*, p. 20, footnote), that "it is perhaps impossible to satisfactorily define the metaphysician"; but he indicates Schopenhauer as a typical member of the tribe. At the same time he says: "the meaning attached by the present writer to the term will become clearer in the sequel"—which it certainly does. It almost seems as if, in practice, the Professor employs the name as a term of contempt for all who do not share, down to their last details, his own (happily in some respects original) metaphysical views.

because sensations are "merely" the subjective side of cerebral processes, *therefore* the world of matter, as we know it, exists only in perception. Whereas, in truth, it is only by supposing these changes, both in the brain and in the rest of the physical world, to run their course outside our consciousness, that we arrive at the result that sensations *are* thus bound up with cerebral processes. To say, as does Professor Huxley,[1] that, scientifically, "thought is a property of matter," but that, notwithstanding this, idealism may be ultimately true—this is a position which, at least on the surface, seems intelligible enough. But to adopt the materialist view, and *on the strength of it* to airily pronounce in favour of idealism, is quite another matter.

The particular fallacy animadverted on in the last paragraph is, it may be pointed out in passing, probably the best attainable specimen of an interesting species, which has never yet been given a special name. It consists in adopting premisses which are only admissible in virtue of a given notion or assumption, and employing them in an argument against the validity (or 'reality') of that notion or assumption. It is to the argument what the *contradictio in adjecto* is to the term, or the contradiction in terms to the proposition. This uncouth species, which lurks chiefly in metaphysical jungles, may perhaps best be called by the name of the *ignoratio principii;* since for the actual conclusion we have only to substitute its contrary in order to transform the argument into a *petitio principii.* As crafty dissimulation is of the very inmost nature of this insidious monster, a schematic presentment of its bare bones would be even less instructive than in the case of the remaining members of the genus. But any one anxious to obtain other living specimens will find the *Grammar of Science* a rich preserve for this kind of game.

We may now sum up our results in the form of the following principle—the *Principle of Externality*—which is simply the "Law of Causation" reduced to its lowest possible terms, and in connexion with which alone can the notion of externality be properly understood: *In spite of* the absence of routine in the manner in which perceptions succeed other mental phenomena and one another, we succeed in approximately reducing the facts of experi-

[1] *Collected Essays*, vol. i. (*Method and Results*). Essays III. and IV.

ence to order by regarding sensations as at least referring to things and events which exist, or run their course, independently of consciousness. This conception constitutes the notion of externality. (The principle of externality, regarded as an assertion of fact, is a psychological assertion: it does not express a primordial belief, but sets forth the general character of judgment.)

As regards the "absence of routine," etc., this may be otherwise expressed by saying: "Sensations *interrupt* whatever routine there may otherwise be in mental phenomena considered simply as such"; if this is understood without prejudice to the further fact, that the *succeeding* psychical states (so far as they are not themselves sensations) are the outcome of the action between the sensation and the state of the mind at the moment of receiving the impression. These two complementary facts may be presented under their physical aspect by saying, that the brain is not a self-contained cosmos which runs its own course independently of all else; but is, on the contrary, amenable to influences from the rest of the external world, the changes wrought in it being the outcome of these influences as well as of its own nature and previous history. It may here be pointed out that since perception, as distinguished from mere sensation, always involves the idea of a regular connexion of sensible attributes, and since this connexion cannot be reduced to laws of a purely subjective nature; it follows that the development of sensation into perception already implies the act of externalisation.

As regards the implication of the phrase "independently of consciousness": it will, I think, be clear from the whole course of the preceding[1] argument, that we do not first think of the object of perception as something separate from consciousness and *then* think of it as continuing independently thereof; but, on the contrary, we have to regard the percept as something more than a mere state of consciousness, as being a "state of consciousness" with the difference of marking as it were a point of contact with something not itself a psychical state, *because* we have to conceive the physical world, as a whole, as persisting independently of consciousness—a state of consciousness that persists apart from consciousness being a contradiction in terms. The idea, then, of persistence[2] apart from

[1] See especially pp. 212-213.

[2] The word "persistence" is here used in the sense in which Spencer uses it in his formula of the Persistence of Force—*i.e.* to denote existence prior, as well as subsequent, to the particular manifestation.

perception, *i.e.*, of unperceived existence, is of the very essence of the notion of externality. And this again is only another way of saying that the fundamental aspect of the notion appears in that conception of physical *events*, whereby these are distinguished (as *physical* events) from the "subjective sequence of our apprehension". It results, indeed, from the considerations adduced in this part, that changes in perception, even when they do not indicate changes in the things perceived, can only be rationalised as functions of physical change: that, in fact, to regard anything as a relatively permanent object is to interpret the fluctuations in our perceptions as changes in our bodily relations to the object *rather than* as changes in the thing itself. Physical permanence has thus no meaning for us except in connexion with the flow of physical events.

Contrasting the present theory of the nature and value of the notion of externality with others that have been put forward, we can say that not any mere opposition of the extended to the unextended, not any "permanence" of "possibilities of sensation," not any supposed "persistence in consciousness," not any fictitious "regularity in the order of our perceptions"; but the perpetual flux of the material world, and the fleeting and discontinuous manner in which its parts and processes are presented to consciousness, give scope for (we cannot strictly say, give rise to) the notion of externality.

Finally, it is to be noticed that this notion, though applicable to experience—being, indeed, the necessary condition of the possibility of its rationalisation—yet involves a going beyond bare experience. Knowledge therefore, while dependent on experience for its material, is dependent for its structure on the *activity of thought*. Thought is, in fact, essentially the activity of reducing the facts of experience to order.[1] Science is not a mere description, it is a construction.

The position we have so far gained, then, may be roughly described as a sort of Kantism—though it is obviously devoid of any necessary idealistic implication. The vital point of Kant's idealism (in which point he has been copied by

[1] This may be expressed in its biological bearings by saying: that the biological function of thought is so to react on perceptual experience, as to at once analyse it and conceptually enlarge its limits. Human thought differs from animal thought in being (1) purposively directed to the accumulation of results, (2) capable of conscious scrutiny of its own processes. (1) represents the scientific movement of thought, (2) the philosophical.

Green and his following) lies in his identification of the externality of the material world with its spatiality. But it will now, I think, be clear that, though undoubtedly space and time are the framework (whether or not *a priori*) on which the whole of our knowledge of the material world is constructed, in order to this end we require, in addition, the principle of externality *as above defined*.

III.

It now only remains for us to estimate the immediate metaphysical significance of our results. This part of our task, however, need not detain us long, since the foregoing analysis of the notion of externality was necessitated precisely by the fact that idealists of all denominations have invariably missed its true nature; so that all their arguments against its validity fall beside the mark.

One of the most essential conditions of thought is that any predication only attains significance in so far as the idea which the predicate-term expresses is opposed to some other idea. This is implied in the meaning of the word "significant" itself. If, therefore, the word "mind" or "consciousness" is to have any meaning for us (any meaning, that is, more definite than that of "something-or-other") it must be as contrasted with something that is *not* consciousness. The only thing that can be so contrasted with mind is *matter*. Now the idea of matter has been shown to presuppose the notion of externality, and the essence of the notion of externality has been shown to lie in the idea of existence which is independent of consciousness. Therefore the word "mind" is as much dependent for its meaning on the idea of unperceived existence as is the word "matter" itself. All which may be more briefly stated by saying that the distinction between consciousness and the external world is also a distinction between the external world and consciousness. To subsume the idea of matter under that of mind would be to empty the word "mind" of all meaning.

Thus the idealistic account of Nature, whether in the form of *esse* is *percipi* or *esse* is *intelligi*, is essentially self-contradictory, that is, meaningless; and, consequently, the question whether it is true or false is also devoid of meaning. Nor is this charge a merely formal one. The question whether the external world *exists*, if intended as an inquiry into the constitution of the universe, is meaningless simply because any question concerning the

constitution of the universe can only be answered along the lines of the notion of externality. It is in virtue of the notion of externality that we know the universe *as* a universe. For this reason the present paper has been entitled, not an inquiry into the problem of externality, but an inquiry into the nature of the notion of externality.

Merely by way of giving point to the foregoing remarks, and having an eye to brevity in our choice of examples, let us take a few characteristic utterances of modern idealism and see how they look in the light of the results attained in parts i.-ii.

(*a*) "Now in the absence of any recognition of a synthetic principle, in relation to which the successive experience becomes what it is not in itself, this [*i.e.*, Berkeley's theory of space] means nothing else than that space is a succession of feelings, which again means that space is not space, not a qualification of bodies or parts of body by mutual externality, since to such qualification it is necessary that bodies or their parts co-exist. Thus, in his hurry to get rid of externality as independence of the mind, he has really got rid of it as a relation between bodies, and in so doing (however the result may be disguised) has logically made a clean sweep of geometry and physics."[1] But in the same way the doctrine that *esse* is *intelligi* means that the physical world is not physical: for to get rid of externality as independence of the mind, is to make a clean sweep of physics.

Green speaks[2] of the "contradictions which, under whatever disguise, must attach to every philosophy that admits a reality either in things as apart from thought or in thought as apart from things, and only disappear when the thing as thought of, and through thought individualised by the relations which constitute its community with the universe, is recognised as alone the real". But if the thing has to be thought of as external to mind, what then? Green rightly rejected the view, as interpreted by him, that the real is "that in regard to which the mind is passive"; but failed to see that, so interpreted, it is simply the obverse of the doctrine that relations exist in and by the act of thought. "This real," he says, "in all its forms, as described by Locke, has turned out to be constituted by such ideas as, according to him, are not given but invented. Stripped of these superinductions, nothing has been found to remain of it but

[1] Hume's *Treatise*, ed. Green and Grose, vol. i., p. 145.

[2] *Op. cit.*, i., p. 141.

that of which nothing can be said—a chaos of unrelated, and therefore unmeaning, *individua*." [1] But *esse* is *intelligi* is not an inference from the absurdity of this conclusion : it is the absurd conclusion itself, stated the other way round.

(*b*) "Anything, in no sense felt or perceived, becomes to me quite unmeaning. And as I cannot try to think of it without realising either that I am not thinking at all, or that I am thinking of it against my will as being experienced, I am driven to the conclusion that for me experience is the same as reality. The fact that falls elsewhere seems, in my mind, to be a mere word and a failure, or else an attempt at self-contradiction. It is a vicious abstraction whose existence is meaningless nonsense, and is therefore not possible. . . . You cannot find fact unless in unity with sentience, and one cannot in the end be divided from the other, either actually or in idea. But to be utterly indivisible from feeling or perception, to be an integral element in a whole which is experienced, this surely is itself to *be* experience. Being and reality are, in brief, one thing with sentience; they can neither be opposed to, nor even in the end distinguished from, it." [2] But since sentience is a chaos, how are we to reconcile this with the following?—"Reality is one in this sense, that it has a positive nature exclusive of discord, a nature which must hold throughout everything that is to be real. Its diversity can be diverse only so far as not to clash, and what seems otherwise anywhere cannot be real. . . . Or again we may put it so: the real is individual. It is one in the sense that its positive character embraces all differences in an inclusive harmony." [3] I suppose we shall be told that the needful reconciliation is "somehow" effected in "our Absolute". But consider: "you can scarcely propose to be quite passive when presented with statements about reality. You can hardly take the position of admitting any and every nonsense to be truth, truth absolute and entire, at least so far as you know. For, if you think at all so as to discriminate between truth and falsehood, you will find that you cannot accept open self-contradiction." [4]

(*c*) "Objects, things, and events—a world of experience—exist for us, and can exist for us, only in so far as our sensitive impressions are determined and related to each other according to universal principles. Objectivity and universality are equivalents of each other, and to say that an

[1] Hume's *Treatise*, ed. Green and Grose, vol. i., p. 132.
[2] Bradley's *Appearance and Reality*, pp. 145-146.
[3] *Op. cit.*, p. 140. [4] *Op. cit.*, p. 136.

object might exist which was not definitely determined as to its quality and quantity, or definitely related to all other objects in space and time both in its persistence and in its changes, is to use words without meaning. If we could imagine such an object—or, what is the same thing, if we could imagine a series of impressions or perceptions which yet it was impossible to bring under the general laws of the connexion of experience—we should be conceiving of something, inconsistent with the very existence of experience. If there were such objects, they could not be objects *for us.*"[1] This, I am afraid, we shall have to amend somewhat as follows:—Objects, qualities and events—the world of Nature—can be known to exist *as such,* only in virtue of the notion of externality. If objects, etc., were reducible to a series of perceptions or impressions which it was possible to bring under general laws of the connexion of experience, they would not be *objective* for us. (In overlooking this fact, the Hegelian idealists have fallen into the same blunder as the "psychological" idealists. This is a good illustration of the principle that "constructive metaphysics," so far as it is not mere verbiage, consists in making elementary blunders in psychology.) Objectivity and externality are thus equivalent expressions. But though—or rather because—the notion of externality is an irreducible element in all belief concerning existence, it is not itself a belief. The bare notion does not represent a rationalisation of experience, but rather the lines on which all such rationalisation must proceed. It is one side of an abstract distinction, which only receives body in an actual judgment. Briefly, we never believe in an external world *simpliciter,* but always in an external world of a particular kind. The only intelligible question, then, that can be asked concerning the external world in general is, How can we best improve our conception of it? But this is the question which science is continually engaged in answering.

"All rational attack and defence must rest on, and appeal to, certain general principles which make the assailant and the defender intelligible to each other: and the Sceptic, so soon as he begins to speak, takes his stand along with his opponent upon the general basis of intelligence. To attempt, as the Sceptic proposes to do, to deny the very idea of knowledge—which alone makes his statement intelligible to himself and to his opponent, and furnishes the only common ground upon which they can meet—is like attempt-

[1] Caird's *Hegel,* p. 116.

ing to wrestle with an opponent while our feet are in the air. The intelligence can no more hoist itself out of the intelligible world by any process of argument than the body can lift itself out of the material world. On the contrary, as I have already indicated, the very effort after absolute denial which the sceptic makes must tend to bring to light principles which his scepticism does not and cannot assail, principles which it seems able to assail only from a confusion of the universal with the particular, of the idea of truth with a particular truth." [1]

Of these so-called principles (*i.e.*, notions) the most fundamental is the notion of externality. Thus the idealist is the person who most thoroughly conforms to Prof. Caird's conception of the " Sceptic ".

[1] Prof. Caird's *Critical Philosophy of Kant*, i., 21.

V.—DISCUSSIONS.

IN WHAT SENSE, IF ANY, DO PAST AND FUTURE TIME EXIST?[1]

I.

The difficulty which this question embodies is stated in a striking form by Lotze. And although it is admitted that philosophy cannot see its way to a victorious doctrine of a timeless reality, without an experience which we do not possess, it is useful to reconsider the common-sense view of Time, in order that we may not deceive ourselves as to the possibility of acquiescing in it.

Are Past and Future[2]—this is Lotze's question—really non-existent? And if they are nothing at all, have we altogether grasped what such an assertion involves? "The history of the world, is it really reduced to the infinitely thin, for ever changing, strip of light which forms the present, wavering between a darkness of the Past, which is done with and no longer anything at all, and a darkness of the future, which is also nothing?" And he further points out that in the natural images which he here makes use of, he has softened down the difficulty, in compliance with the inevitable bias of popular fancy. For these two abysses of obscurity, past and future, however formless and empty, would still be there. But let any one try to dispense with these images, and to banish from thought even the two voids which limit being; he will then feel how impossible it is to get along with the naked antithesis of being and not-being, and how unconquerable is the demand to think even of that which is not as some unaccountable constituent of the real. "Therefore it is," he continues, "that we speak of distances of the Past and of the Future, covering under this spatial image the need of letting nothing slip completely from the larger whole of reality, though it belong not to the more limited reality of the Present."

Bradley states the point more tersely. Science "habitually treats past and future as one thing with the present. The character of an existence is determined by what it has been, and by what it is (potentially) about to be. But if these attributes, on

[1] Read before the Aristotelian Society.

[2] *Metaphysic*, book ii., ch. 3.

the other hand, are not present, how can they be real? Again, in establishing a Law, itself without special relation to time, science treats facts from various dates as all possessing the same value. Yet how, if we seriously mean to take time as real, can the past be reality?" (*Appearance and Reality*, p. 208).

The difficulty of the infinite thinness of that strip of light which according to a natural logic should form our present, has been disposed of, so far as experience goes, by psychology. Though the conception of a flux or succession may seem to imply a present which perishes in appearing, it is evident that in fact our present is not of this nature, but includes duration, and is variable in its extension. Thus we are not brought face to face with a mere series of vanishing points, such as Lotze's language presupposes; although it may be that this escape from one perplexity is only purchased at the cost of another. For there is something strange about a succession any length of which can be taken as present and treated as if it all existed at once.

But waiving this form of the difficulty, what I desire to ask is this: Can an intermediate or improved form of the common-sense doctrine be suggested, such as to be free from the difficulties which Lotze and Bradley point out in our natural conception of time as real, and Past or Future as non-existent?

"Why should not time be real," it may be said, "as the form of a process at once successive and continuous?" A unity there undoubtedly is in reality; the past causes or conditions the present, and the present the future. But why should not a unity develop itself through the continuous nexus of phases in succession? And why should not the laws of nature or the systematic and coherent element of harmony which finds expression in science, art and religion, be simply the generalised character and connexion of that which in actuality exists, as it seems to exist with a continuity no less real than its succession? Why sacrifice one element of apparent reality, its successiveness, to the other, its continuity; and if we do so, are we not destroying both?

On such a theory, which represents, I think, the position of the natural man when once it has been thoroughly made clear that change or succession without a continuity is unmeaning, nay, even that "nothing but the permanent can change," I presume that past and future would exist, so to speak, indirectly. Distinctions of tense would have a genuine meaning in the relations of cause to effect within an order of real conditioning. But the present tense alone, implying a certain duration, would predicate existence in the full sense. It would be quite agreed that the past and the future make a difference to the present. But they would be held to exist only in and through this difference, and would be realities only, in the case of the past, as effects, in the case of the future, as anticipations (the contents of which might be ascribed as attributes to objects).

The difficulties of such a view arise from the thorough unity of

content between the present and the past and future. Passing over the shifting extension of the present, which goes to show that the difference between present and past is merely one of degree—the problem would be quite different if the present were a segment of fixed length, cut off by infallible marks from the past—we may point at once to the inevitable objection arising from the unity of knowledge, which Mr. Bradley referred to in the few words cited above. For we all know that in logic, *i.e.*, in trying to catch the spirit of science and recognise its necessities, the first step is to transcend the distinctions of tense; and this for the reason that they are incompatible with what we understand by universal truth; and for science there is no truth except universal truth. And probably it is needless to labour this point. Scientific truth, it will be admitted, consists of universal connexions, such that if true at all they are always true, and if ever upset are wholly to be rejected. Observable sequence of events cannot be scientific truth. But I can imagine its being urged that the body of science, and of art or of religion, in so far as they aim at expressing eternal realities, are erections or constructions of the human mind, existent in fact within the present only, and valuable as focussing characteristics permanent throughout the entire world-process, itself extended in time.

In view of such a position—and it would be a gain, I think, *per se*, to know if such a position meets with support—a line might be taken by idealists which would be less one of assault than of interpretation. A certain element of the world-process, supposed to be as a process the ultimate reality, would have been admitted to form a permanent background of the time-series. It would be a background *ex hyp.* not consisting in sensible objects or events and so far devoid of presentable existence. On the other hand, it would be of such a nature that the presentable existence could only by incorporation with it, and consequent loss of its presentable character, claim a *truth* (if the term *reality* is to be reserved for sensuous presentation) lasting beyond the instant of presentation. Now it is impossible for any modern students to say that a system of truths can be a mere psychical existence, without reference to some character of a world beyond, though possibly one with, individual consciousness. This mode of escape is therefore shut off. And then what have we remaining? We have reality as a sequence of presentable events, which sequence is endowed by the hypothesis with actual continuity of a certain kind. The nature of this continuity is permanent, and all universal truth consists in stating with more and more perfection the permanent nature or laws or characteristics of this continuity; and no element of the succession can be embodied in a system of truth except in as far as it can be shown to be inherent in the permanent nature of this continuity which we primarily notice as a succession.

Would it not be true to say that we must choose at this point

between accepting the permanent nature of the continuity as the higher form of reality, thus taking the essence of past and future to form one timeless whole along with the essence of the present; and erecting a distinction of principle between the work of the mind, *e.g.*, the body of science, and the given sensuous series, which would carry us back to the point at which John Locke began?

BERNARD BOSANQUET.

II.

NOTWITHSTANDING the realistic character of the hypothesis apparently accepted by Mr. Bosanquet as a compromise or *via media*, and put forward less as an assault upon, than an interpretation of, what he considers to be the hypothesis of natural realism, I am wholly unable to see that it either avoids or solves the difficulty signalised by Lotze and Mr. Bradley as inherent in the conception of time as real—namely, that it involves conceiving both past and future time as wholly non-existent.

It does not avoid it, because the "permanent nature of the continuity in the higher form of reality" does not, as he supposes, make that reality "one timeless whole," but rather renders more undeniably evident the necessity of time to reality. For the very meaning of *permanence* is duration of something in time; and the very meaning of *continuity* is absence of breaks or intervals in such a permanence. Time cannot be perceived, imagined, or thought of, save as a continuum, the discreteness of which, when it exists, is introduced either by thought, or by some difference in the quality of its content; upon which discreteness its being thought of as a succession of parts depends. Yet though I must on this account reject one of Mr. Bosanquet's final alternatives, I do not therefore accept the other, for reasons which will presently appear.

While the first alternative does not avoid Lotze's difficulty about time, neither does it solve it. No attempt whatever is made to solve it, so far as I see, in Mr. Bosanquet's paper. It is not even faced. Time is an essential element in experience, and therefore in our conception of reality; it is essential both to consciousness and to reality, and common to both. When, for instance, we handle a solid object, the present moment of the existence of that object and the present moment of our feeling it are one and the same present moment of time.

"What is *Being*," says one of the chief personages in a dialogue of Plato's, "but sharing in some definite nature in present time, as to have been is to have shared in some definite nature in past time, and to be going to be is to be going to share in some definite nature in future time? What say you? It is very true. Well, then, Unity shares in time, if it shares in Being." (Plato's *Parmenides*, 151, E.) Unity (ἕν) is the subject under discussion.

Time being thus universal in experience it follows that any difficulty which arises from the very nature of time cannot be avoided, but must be faced. And such is the difficulty signalised by Lotze. Time is a mode of continuity which has this peculiarity, that, of any two points taken in it, one is earlier and the other later. In this it differs from that other mode of continuity, called spatial continuity or space, in which any two or more points have space between them, but exist simultaneously with each other. All contents of experience, then, since they have time as an element in them, are constantly passing, coming into and going out of immediate consciousness, and that portion of time which they occupy between the point of their entry and the point of their disappearance is called an empirical present moment. The content of an empirical present moment, thought of before it actually enters consciousness, is thought of as future; one thought of after it has disappeared is thought of as past.

Now all our experience takes place in empirical present moments. All our thoughts, memories, imaginations, expectations, feelings, volitions, and so on, as well as sense presentations, are passing contents of present moments. We cannot think of present contents except as now existing; we cannot think of past or future contents except as now not existing. About these taken as existent (or non-existent) portions of consciousness, there is no difficulty. Only a present content exists *now*, or is present. But what about the objects of which these existent present contents appear to be a knowledge? and among them what about those objects which we call real, what about Reality, in which time is just as essential an element as in empirical present moments of experience? Must not reality also, since it shares the nature of time, come into and pass out of real existence, just as empirical contents of experience come into and pass out of actual existence as states of consciousness?

The answer is, I think, plain. States of reality do in fact come into real existence and pass out of real existence, just as contents of consciousness, which are our experience, pass into and out of experience. But not Reality as a whole, any more than Experience as a whole. Reality exists in successive empirical states, each having duration in time, just as our experience of it does. We have, then, to conceive Reality—so far as we can form any positive conception of it at all—as consisting of a series of changing states of physical matter, forming, in Mr. Bosanquet's words, "a world-process itself extended in time". This conception I adopt, but not with Mr. Bosanquet's interpretation, that it or any so-called "background" of experience is "timeless". And I conceive the whole world-process as real, in the sense that all the simultaneously existing parts of any present empirical state of it are in action and re-action on one another, so as to produce a new state, or new configuration of parts; the uniformities discoverable in

these actions and re-actions being that which we know as Laws of Nature.

By conceiving the successive states of the real world-process as empirical, that is, having duration, we leave room for the change wrought by action and re-action between them to take place, and so issue in a new state or configuration. The simultaneously existing parts which are said to be in action and re-action on one another are not to be considered changeless, because existing simultaneously, but as changing, though within certain limits and in certain respects only; action and re-action being themselves a mode of change, and, as such, occupying time. Every part of an empirical state must be conceived as having a certain time-duration, during which it enters into action and re-action with other parts of the same state. If, however, it should be objected that any mode of motion, or of change, is inconceivable, because involving time, of which the prior limit must have ceased to exist before the latter limit comes into existence—which I take to be the real point of the difficulty signalised by Lotze—the reply is, that this is to reduce change or motion to a single changeless or motionless state, having no duration—which, I suppose, was the Eleatic conception of Reality. But to reduce Reality or any state of it, in thought, to a single changeless state having no duration, has the very opposite consequence to that which is intended by its advocates; for it involves reducing an empirical present moment of real existence to a mathematical instant of time, whereby it becomes a mere limit between past and future time, and these latter, so far from being non-existent, must then be thought of as the sole existing realities. Unless indeed we think of past and future existence as also non-existent, because not existing *now;* in which case thought would become *felo de se*, having arrived at the conclusion of pure nihilism, which is incompatible with the fact of experience of any kind whatever. Thought cannot work without some experiential data to work upon, and all experiential data involve a former and a latter in time. To erect distinctions which are the mere machinery of thinking, and which presuppose some content into which they are introduced (as, for instance, abstract unity and number, abstract figure in space, the abstract logical laws of identity and contradiction, or the abstract limit between past and future time) into independent realities, is mischievous pedantry.

To the view now taken, I cannot, for my part, see that what Mr. Bosanquet puts as an alternative conception, at the end of his paper, is any real or exclusive alternative at all. I certainly do not wish to "erect a distinction of principle between the work of the mind, *e.g.*, the body of science, and the given sensuous series". I see, of course, that sense-perception and thought are two very different functions, or modes of experiencing; but both alike refer to and deal with the same content of experience, and the same real world-process. There is, so far as I can see, no timeless background to either the one or the other.

What I own I do not see is, that any objection or difficulty arises from the fact that scientific truths are universal, or, in Mr. Bosanquet's phrase, "transcend the distinctions of tense". What is meant by their being universal is, that they apply to any and all parts and states of the real world-process; or, as Mr. Bosanquet himself puts it, "if true at all they are always true". *Always;* exactly so; true for all time. That two and two make four is a universal mathematical truth, true for all times and places, and whatever may be the objects counted. How you can count at all without time, I cannot imagine, or think without it either.

What then, in result, is the solution of the difficulty propounded by Lotze and Mr. Bradley? 'You have faced the difficulty,' it will be said to me, 'but you have not solved it. After all you have to confess, that no states of reality exist but passing and present states, and only while they are present; past and future states being strictly non-existent. This is no solution of the difficulty, it is an admission that it is insoluble.'

To this I answer as follows: What is a present state of reality? We know a present state of reality as present, only by identifying it with a present empirical moment of our own experience. This I pointed out at the beginning of my paper. The present moment of the existence of the real world-process and the empirical present moment of my experience are one and the same present moment, since only one time-duration common to all things is conceivable. But as Mr. Bosanquet has well pointed out, the empirical present moment of my experience has no fixed limits. To which I add, that it has no fixed limits either in its character as an existent state of consciousness, or in its character as a knowing, that is, as regards the extent and richness of the content immediately known or experienced by it. The keener my sensibilities and the more powerful my cognitive energies of every kind, the greater will be the expanse, duration, richness and complexity of the contents experienced in any one of the successive empirical moments which make up the history of my consciousness as an existent.

Suppose now that, in place of me and my capacities, or those of any finite human being, there was introduced a conscious being of indefinitely keener sensibilities and indefinitely more powerful cognitive energies of every kind, the whole content experienced by him in any one of his successively existing empirical present moments of consciousness would also be indefinitely increased, in point of expanse, duration, richness and complexity. And there is no contradiction in supposing that the sensibilities and cognitive energies of such a being should be heightened to as great a degree, though indefinitely conceived, as that to which we can conceive the whole real world-process expanded, lengthened in duration, and increased in richness and complexity of content. In that case, and on that supposition, the whole real world-process, in what is to our apprehension past and future as well as present time,

would be to such a being the immediate object of a present experience, and that in any or every one of the successive empirical moments which would compose the history of his consciousness as an existent. And yet he would be aware of the real world-process in all its detail, and with all its distinctions of earlier and later in time, just as we are aware of the distinctions of earlier and later in the successive parts of the content experienced in an empirical present moment of our finite consciousness.

Now I ask, would not the truer universe, the truer world-process, the truer Reality, be that which was disclosed to a conscious being of indefinitely great powers, as compared to that which is disclosed to finite intelligences like ourselves? And if it would, are not what we call past and future states of the real world-process just as really existent *now*, inasmuch as they are present realities to that supposed indefinitely heightened consciousness, as any state of it which is the object of an empirical present moment of a finite consciousness?

Observe there is no *a priori* notion of Reality to appeal to. Our conception of what it is must be drawn from experience, and is therefore always relative to the consciousness which is the perception or the knowledge of it; of course, without implying that we conceive its existence dependent on the existence of the consciousness which perceives or knows it. We cannot, so to speak, get at reality at all, save through consciousness as a knowing of it. The question *what is it known as?* or *what is it in consciousness?* always comes first, concerning anything whatever; we never know what anything *is*, save by putting this question first. The ultimate meaning of *Esse* is *Percipi*. So it must be also with the whole universe or world-process of Reality. Since, then, we know that our own experience is inadequate to grasp it, we also and thereby know that, to conceive it truly, we must conceive it as being that which it would be known as being by an intelligence which should be adequate to comprehend its immensity in a single moment of experience.

SHADWORTH H. HODGSON.

III.

MR. HODGSON'S answer to this question appears to be that both past and future time do exist in the sense that both would be present to a conscious being whose cognitive capacities were perfect. I do not know if he can prove that such a conscious being exists; but I see no objection to accepting this hypothetical answer as giving information about reality, if it only means that reality, if it were known as it really is, would all appear to be present: for that comes to saying that reality, as it really is, is in one long present; or, to accept Mr. Hodgson's qualification, that the distinction between past and future does not exist in the world as

a whole in any other sense than it exists in that part of the world which is present to us in any one of our "empirical moments".

But Mr. Hodgson seems to damage his answer very seriously when he asserts that the distinction of past and future must yet be supposed to exist in quite another sense in the consciousness of the *deus ex machina*, who is necessary to his solution of the problem. "The whole real world-process," he says, "would be to such a being the immediate object of a present experience, and that in any or every one of the successive empirical moments which would compose the history of his consciousness as an existent." His consciousness then would be an existent and would have a history; and that being so, in what sense would the past and future moments of his consciousness exist? Mr. Hodgson could only answer that they would be absolutely non-existent: "only a present content," he says, "exists *now*, or is present". And he seems to see no difficulty in this assertion. But to those who cannot, as he does, treat consciousness as exclusive of reality (though, as we have seen, he also says it is "existent"), it will appear to re-open the whole discussion. At all events it is in this very transition of consciousness from past to present and future that Lotze found the difficulty that Mr. Hodgson professes not only to have faced but to have solved. In the chapter, from the end of which Mr. Bosanquet's quotation was taken, Lotze discusses at great length the possibility of conceiving the apparent succession of events in time as really nothing but the presentation of an unsuccessive whole to consciousness; and, having admitted the possibility of this conception, he is only driven to the statement in question, by the impossibility of conceiving that events in consciousness itself (what Mr. Hodgson calls "empirical moments") should appear to be successive, when they are really not successive.

But apart from Mr. Hodgson's extraordinary assumption, which perhaps he may have justified elsewhere, but which seems to vitiate the whole of his paper and to make it very difficult to find a common ground for argument with him—the assumption, namely, that consciousness is in no sense a constituent of reality, and that, therefore, succession in consciousness, as not affecting the reality of time, needs no explanation; apart from this, I think his final view may be shown to involve an open inconsistency with his premises. "The present moment of the existence of *an* object," says he, "and the present moment of our feeling it are one and the same present moment of time." Apply this to the consciousness of his *deus ex machina*, and we get the result that the whole world-process repeats itself in every successive moment in which it is presented to that consciousness. In that case, surely, the whole world-process is simply not the whole world-process.

But there is another point in Mr. Hodgson's final conception which I think it will be well to discuss, because he accepts it from Mr. Bosanquet; so that here I find myself forced to oppose them

both. This point relates to the use which both propose to make of the psychological doctrine that what Mr. Hodgson calls the "empirical present moment of my experience," and Mr. Bosanquet, more tersely, "our present," "has no fixed limits". It is true that Mr. Bosanquet's main argument is not affected by this point, and that he twice expressly waives a full discussion of it; still he uses it as an objection to Lotze's statement of the problem, and his words seem to imply that there are pertinent difficulties lurking in it. I think it is as well that they should be dragged to the light, not only because they vitally affect Mr. Hodgson's proposed solution, but also because they help to make clear the general nature of time; lastly, too, because I fear I am heretical with regard to them. Mr. Bradley, at all events, so far as I understand him, is against me: "There can," he says (*Principles of Logic*, p. 53), "be no part of the succession of events so small or so great, that conceivably it might not appear as present". Now I do not wish to enter into a psychological argument, for which I am very ill equipped; but I think that at all events this statement should be guarded against the use which Mr. Bosanquet and Mr. Hodgson seem to make of it, by the following proviso: "But not if it appears as a succession". Surely the psychological doctrine is only meant to emphasise the fact that in time, as in space, there is a *minimum sensibile?* The rate of change in our consciousness can only be measured against an objective standard, and the shortest events that we can discover by introspection may turn out to occupy a considerably longer duration than, *e.g.*, one revolution of a wheel revolving at 200 per second. Moreover it may be discovered that different persons, or the same person at different periods, differ in respect of the amount of inner change which corresponds to some such fixed outer standard. But this would only mean that the *minimum sensibile* of what Kant calls the "inner sense" has a merely relative value. The case here is different from that of space, because there we have only to compare the divisions which we can discover in the content of our space-presentation, with those which science necessarily infers to be actual or possible, whereas here we have to compare the successive moments of our consciousness not only with inferred motions in space but also with the content of our presentations. Time, in short, as Kant says, is a form not only of the outer but also of the inner sense. Now, as a form of the outer sense, it is precisely similar to space in respect of its infinite divisibility; but in it, as in space, it is impossible to detect divisions below a certain degree of minuteness. When, however, time appears as form of inner sense this *minimum sensibile* of presented content corresponds exactly to the *minimum sensibile* of the same content, viewed as psychical event; but it is also as necessary in the history of consciousness as in physical history to regard time as infinitely divisible. Hence I entirely concur with Mr. Hodgson when he says: "The present moment of the existence of the real

world-process and the empirical present moment of my experience are one and the same present moment". This is true, both with regard to the perceptions of the individual, and to the rate of change in consciousness or matter, when measured by some arbitrary unit. But, when Mr. Hodgson goes on to contradict himself by saying that "we are aware of the distinctions of earlier and later in the successive parts of the content experienced in an empirical present moment of our finite consciousness," that statement is just as false. We may know that the parts of what we experience as unsuccessive must really be successive; but it is inconceivable that we should experience as successive, what, just because we are unable to detect successive parts in our experience of it, we call "our present". The fallacy, if fallacy it is, consists in confusing inner perception with scientific knowledge of the outer world—a confusion which, since Hume, could hardly be made in the case of space, because there inner perception has not the same double bearing. It would, however, be a parallel absurdity to deny the infinite divisibility of space on the ground that the smallest perceptible point was of variable extension. Mr. Bosanquet's very words that "our present includes duration" imply that it can be measured by the same arbitrary units as physical successions. And the fact is that as soon as we perceive, and do not merely infer, any succession in our present, it ceases to be our present. To ascribe to the Absolute any power of experiencing past and future as present, would be to put its consciousness on a lower level than ours, since it would be to deprive it entirely of that power of distinguishing successive events which is a condition of our progress in knowledge.

I must, therefore, plead guilty to the charge of "mischievous pedantry," with which Mr. Hodgson confutes Lotze, and at the same time may thank him for giving us, in what he regards as a *reductio ad absurdum* of philosophic thinking, a proof of the unreality of time. The present is not real, because it can only be thought as infinitely small; and past and future cannot be real, not only because they also must be thought as infinitely divisible, but also because they wholly lack that immediacy, which, according to Mr. Bradley, is a necessary constituent in reality. But, if neither present, past, nor future is real, there is nothing real left in time as such.

At the same time, I must beg Mr. Hodgson not to condemn me too hastily. If he thinks that by such a view I am bound to maintain that I "can count without time, or think without it either," there still remains much to be said. I think I may safely leave to Mr. Bosanquet to defend himself on this count; but, for my part, I should like, in fairness, to warn Mr. Hodgson that I cannot help making a distinction between the process of thinking and the content of thought. Because I cannot think without taking some time about it, I cannot see it follows that what I think about need also be in time. Mr. Hodgson himself seems to admit

in various parts of his paper that the content of thought, when it, as such, has reference to time, may differ in respect of its time-relations from the thought which thinks it. And, if this be so, the mere fact that we can only think in time can never prove that everything we think of need be so, except in so far as we are thinking it.

However, in connexion with the 'reality' of universal truth, I am glad to be able for once to side with Mr. Hodgson against Mr. Bosanquet. Although I hold that the point which is made against Mr. Bosanquet, in respect of his use of the word 'always' to describe the validity of universal truth, is in part merely verbal; yet I do think there is some real objection to the use which Mr. Bosanquet makes of the notions of 'permanence' and 'continuity'. As to the former term I heartily agree to Mr. Hodgson's assertion that its 'very meaning is duration of something in time'. The latter I wish to investigate more carefully.

Mr. Bosanquet, I cannot but think, tends to confuse two meanings of continuity which it is most important to distinguish. For instance, in the passage in which he supposes a theory for the 'natural man' who has once thoroughly understood that 'nothing but the permanent can change,' he speaks as if a 'continuous nexus of phases in succession' might be identified with the 'undoubted unity in reality' constituted by the fact that 'the past causes or conditions the present, and the present the future'. He seems to suggest that such unities as the laws of nature may be the continuous element in time. And his further argument in no way invalidates this part of the supposed plain man's view. It is only directed to show that the plain man must ultimately admit this continuous element to be a higher form of reality than the successiveness, which he at first supposed could not be sacrificed without involving the destruction of the continuity. Thus Mr. Bosanquet's final conception might seem to involve that we should think adequately of reality, if we imagined every content that we have reason to think real persisting unchanged through an endless time—a conception similar to some theological notions of Eternity (Milton's 'Long Eternity,' for example) and which might seem to make it impossible for beings in such a state to recognise that they were in time (since change seems to be a *ratio cognoscendi* of time), but which would not, for that reason, preclude their really being so. Surely the continuity of time, as it is generally understood, would really be destroyed along with its successiveness; but successiveness in no way involves any difference of content in events, other than that which constitutes the difference of one moment of empty time from another. The continuity of time is its qualitative nature as immediately perceived; 'time,' as Mr. Bradley says, 'is not a mere relation'. But the continuity which we must suppose to belong to reality is not this special quality of time, which as a mere quality is as unreal as the relation of succession. A universal, such as a law of

nature, may perhaps be spoken of as giving continuity to its particulars, since it binds them together; but it binds them in quite a different way from that in which the successive moments of time are bound together. For instance, any two durations may share the universal notion of a union of continuity with discreteness, but the unity thus constituted can obviously not be the same as the continuity which is only one term in the universal that connects the two durations.

For this reason I think Mr. Bosanquet rather underrates the difficulty of reconciling time with reality. Time must be rejected wholly, its continuity, as well as its discreteness, if we are to form an adequate notion of reality; and this thorough-going rejection of almost all the content with which our world is filled, most seriously impairs the filling of our conception of reality. We are, I think, forced with Kant and with Lotze, to desiderate an entirely different form of Perception, which would share with Space and Time nothing but the mere immediateness of the Present, without its distinction from Past and Future, and this Reality for us remains little more than a *Ding an Sich*. As such, however, I must insist against Lotze, that it does remain knowable by us. He implies this when he speaks of a totally different form of Perception as merely possible; for, in that case, he cannot ascribe to Time that absolute necessity, which anything which we are to recognise as Real must have. By this admission he seems finally to condemn Time as merely subjective, and the whole previous course of his argument tends to prove, not that it is more than an appearance, but only that if we assume an appearance to be real, we cannot prove its unreality.

If I need, then, after the foregoing discussion, to give a direct answer to our question, I would say that neither Past, Present, nor Future exists, if by existence we are to mean the ascription of full Reality and not merely existence as Appearance. On the other hand I think we may say that there is more Reality in the Present than in Past or Future, because, though it is greatly inferior to them in extent of content, it has that co-ordinate element of immediacy which they entirely lack. Again, and lastly, I think we may distinguish in this respect between Past and Future. The Past seems to be more real than the Future, because its content is more fully constituent of the Present, whereas the Future could only claim a superiority over the Past, if it could be shown that in it Appearance would become more and more at one with Reality.

G. E. MOORE.

VI.—CRITICAL NOTICES.

The Principles of Sociology. By Herbert Spencer. Vol. iii. London: Williams & Norgate, 1896. Pp. 635.

The present volume of Mr. Spencer's *Principles of Sociology* is not an entirely new book. It is cut up into three divisions, and two of these have already been placed before the public. The first division, dealing with Ecclesiastical Institutions, appeared a good many years ago in a separate form as an independent book. The second division, dealing with Professional Institutions, has also been previously published in the form of articles in reviews. The only portion of the book which is entirely new is the third part, which deals with Industrial Institutions. Objections have been raised by purchasers of the first division of the present volume on the ground that they cannot obtain the two concluding divisions without purchasing the first a second time. The author, and not the purchaser, is the supreme judge as to the manner in which he shall publish his works. On the other hand, intending purchasers may be deterred, and probably are deterred, from carrying their intentions into effect when they find that they have to buy a second time a publication which is already in their possession. This, however, is a detail, offering it is true an inviting field for the exercise of casuistry, but of no import whatever as far as the contents of the present volume are concerned.

Ecclesiastical Institutions, according to Mr. Spencer, are the outcome of religious ideas, and on this point there is unanimity of opinion among all writers who have devoted attention to the subject. But when Mr. Spencer proceeds to say that the origin of religious ideas is to be found in ancestor worship he at once raises an issue on which there is the widest difference of opinion. An explanation, to be satisfactory, must take account of all the facts, and it can hardly be said of the ghost theory of the origin of religion that it is a theory which fulfils this condition. As a matter of fact we know exceedingly little about the religious consciousness of primitive man. We may, if we like, assume that his religious consciousness is somewhat similar in character to the religious consciousness of the modern savage, or to the religious consciousness of the progressive races of antiquity, or to the religious consciousness of the child. But after all we cannot

say for certain that it was similar. We are in a region of hypothesis, imagination and conjecture. This is no doubt a fascinating region; it offers a boundless field for the exercise of psychological divination. And it must be admitted that Mr. Spencer is a master in this department. But from such a region the most acute and highly trained intellect can only bring back "possibilities and probabilities". In so far as these conjectures are a sort of satisfaction to our curiosity as to the probable origin of religious ideas and institutions they serve a useful purpose. But it is always to be remembered that they are only approximations at the best, and cannot be placed in the category of established facts. It is easier to trace the development of the religious consciousness than to divine its origin. The manner in which Mr. Spencer performs this task is coloured by his fundamental assumption as to the origin of religious ideas. But his main contention is in accordance with historic fact when he points out that the evolution of the religious consciousness from lower to higher levels is to be seen in what he calls the "deanthropomorphisation" of the supreme object of religious reverence. Mr. Spencer considers that this process will continue until what he describes as the "Ultimate Reality transcending human thought" is no longer spoken of in terms which are only applicable to a transfigured man. The process of "deanthropomorphisation" if carried to the extent indicated by Mr. Spencer may give satisfaction to the intellect, but will a religion in which this process has been completed afford adequate satisfaction to the heart and will? Religion is much more a matter of emotion and volition than of intellect, and unless ecclesiastical institutions are able to provide satisfactory exercise for the emotional needs of man it is to be feared that they will ultimately cease to exist. In short, religion must present a conception of the universe which compels reverence, devotion and effort, as well as intellectual assent.

From Ecclesiastical Institutions Mr. Spencer passes by a natural transition to Professional Institutions. This he does in accordance with the general principle which dominates his philosophy, that the process of development is a process of differentiation—the rise of the heterogeneous from the homogeneous. The ecclesiastic or priest used to combine in his own person almost all the functions which are now differentiated and distributed among the various professions. The ecclesiastical origin of the physician and surgeon is proved by Mr. Spencer by a reference to the fact that all over the world the priest in humbly developed societies is a medicine man as well as a ghostly counsellor. As social evolution advances it is seen that the cure of diseases is effected by natural means, and when this is observed the doctor becomes by degrees differentiated from the priest and assumes the position of an independent professional man.

The singer, musician and dancer, are specialised in accordance with the same principles as the doctor, but at a less early period

of social development. The orator, the poet, the actor, the dramatist, arise out of the ovations to living and departed kings and chiefs. "The great deeds of the hero-god, recited, chanted or sung, and mimetically rendered, naturally came to be supplemented by details so growing into accounts of his life; and thus the priest-poet gave origin to the biographer, whose narratives being extended to less sacred persons became secularised. Stories of the apotheosised chief or king, joined with stories of his companions and amplified by narratives of accompanying transactions, formed the first histories. And from these accounts of the doings of particular men and groups of men, partly true, but passing by exaggeration into the mythical, came the wholly mythical or fiction which then and always preserved the biographico-historical character. Add to which, that out of the criticisms and reflexions scattered through this personal literature an impersonal literature slowly emerged, the whole group of those products, having as their deepest root the eulogies of the priest-poet."

Not only is the poet, the biographer, and the novelist an offshoot from the priestly class, but the man of science as well. The priest in order to extend his influence was stimulated to acquire knowledge of natural actions and the properties of things. In this manner the priest became the primitive man of science, and also the primitive philosopher. His investigations into the nature of things led him to inquire into the causes of things and to construct a general conception of the world. The judge, the teacher, the architect, the painter, are all evolved from the priest. Everywhere the process of professional evolution exhibits the same characteristics. Out of one primitive class there comes, by progressive divergences, many classes. Each of these classes passes through the same developmental process as the parent class. The line of advance is always from an indefinite homogeneity to a definite heterogeneity. The part of Mr. Spencer's volume which deals with Professional Institutions is a very able piece of work. Criticism might be directed towards points of detail, but in dealing with the work of a writer who covers such a vast field we must be content and grateful when his fundamental contentions are correct.

Industrial Institutions in their development follow the same line as Professional Institutions—specialisation increases with the growing complexity of industry. Mr. Spencer traces the process of specialisation in a masterly manner. In an admirable chapter on Compound Free Labour he very truly points out that the growth of the mechanical arts and of industrial organisation, while in some respects beneficial, is in other respects detrimental to the life and character of the artisan. The factory hand, in particular, loses heavily as a man. By the perfecting of machinery, more and more of his bodily powers are rendered superfluous. As the sphere of human agency is diminished the workman becomes more automatic. The monotonous attention required by his occupa-

tion unduly taxes certain parts of the nervous system and entails positive as well as negative injury. While his mental nature is being deformed his physical nature is being degraded, owing to oscillations of temperature in a vitiated atmosphere, and also owing to the unnatural attitudes in which the work has to be performed. "If we compare his life with the life of the cottage artisan he has replaced, who a century ago having a varied muscular action in working his loom, with breaks caused by the incidents of the work, was able to alternate his indoor activities with outdoor activities in garden or field, we cannot but admit that this industrial development has proved extremely detrimental to the operative. In their social relations too there has been an entailed retrogression rather than a progression. The wage-earning factory hand does, indeed, exemplify entirely free labour, in so far that making contracts at will, and able to break them after short notice, he is free to engage with whomsoever he pleases and when he pleases. But this liberty amounts in practice to little more than the ability to exchange one slavery for another; since fit only for his particular occupation he has rarely an opportunity of doing anything more than decide in what mill he will pass the greater part of his dreary days. The coercion of circumstances often bears more hardly on him than the coercion of a master does on one in bondage."

Trade unions Mr. Spencer considers to be necessary in the existing conditions of civilisation. He believes that they prevent employers from doing many unfair things, that they act as a check on the aggressiveness of the employer, that they compel him to raise wages more quickly than he would otherwise do, and that they raise the *status* of the workman. In addition to these advantages trade unions give a useful social discipline to their members, and have the effect of preparing them for such higher forms of social organisation as will probably hereafter arise. But the master-and-workman type of industrial organisation is not an ideal type, and might, under certain conditions, be superseded by a system of co-operative production in which merit and reward would be more nearly adjusted. But the practicability of the co-operative system depends on character. Higher types of society are made possible only by higher types of nature. The best industrial institutions are possible only with the best men.

Co-operation is one method of regulating labour. Socialism is another method, and Mr. Spencer is of opinion that the fundamental point at issue between socialists and anti-socialists concerns the mode of regulating labour. Under a socialistic system the regulators of labour would be a vast and highly organised bureaucracy. This bureaucracy would be constituted on militant principles, and would work on militant lines. It would ultimately become a new aristocracy. It would be much more formidable and despotic than the old aristocracy, inasmuch as it would possess much greater powers. At the present time Mr. Spencer

considers that this new aristocracy is in process of formation, and that liberty will perish under its iron heel. He believes, and rightly, that the rule of an official caste, if it ever becomes a reality, will differ as much from what socialist theories contemplate as the "rich and proud ecclesiastical hierarchy of the middle ages differed from the groups of poor and humble missionaries out of which it grew". The only hopeful outlook for society in Mr. Spencer's view is the federation of the highest nations for the purpose of maintaining peace. The formation of the peace-maintaining federation would provide the conditions by which men may adjust themselves to each other and to their surroundings. This process of adjustment is at present being perpetually hindered by anti-social conflicts. Until these conflicts cease the final stage of evolution, consisting in an equilibrium between inner faculties and outer requirements, will not be attained.

Mr. Spencer sees more clearly than any other thinker of eminence in the present generation that there is an irreconcilable antagonism between the growth of militancy and the march of human progress. It is to be hoped that his opinions on this subject will produce an impression on the public mind. His profound remarks on the characteristics and tendencies of bureaucracy are equally valuable and opportune. In fact, the whole volume is replete with wisdom and suggestiveness. It amply maintains Mr. Spencer's reputation as the most influential living thinker in the English-speaking world.

W. D. Morrison.

Schopenhauer's System in its Philosophical Significance (Shaw Fellowship Lectures, 1893). By Wm. Caldwell, M.A., D.Sc. Edinburgh and London: Blackwood & Sons, 1896. Pp. x., 538.

The author, who has left Scotland, logic and metaphysic, to fill the chair of moral and social philosophy at North-western University in the State of Illinois, presents us, in this bulky but well-printed volume, with the expanded outcome of his Shaw course and other series of lectures, in the shape of several philosophical essays. Each chapter, except the first and last, which are general in character, deals with some leading aspect of Schopenhauerism. Each chapter, at the same time, is intended to some extent to reflect the system as a whole. The result of this method of procedure is that while each chapter is almost microcosmic in its relative independence of the rest, the book, as a whole, suffers from a want of clearly-felt organic continuity, as well as from a great deal of reiteration. The reader, however, whether persevering or not, will not fail to be favourably impressed with the dignified sagacious spirit in which Professor Caldwell has combined wide and deep criticism of a philosophy which, on the face of it,

is a *tour de force* in self-contradiction, with an appreciative discernment of the pregnant truth and force in it. Possibly the study of ethics and "social philosophy" tend, in general, to impart a sympathetic and magnanimous tone to criticism. Dwelling, on the one hand, much upon 'the good,' the ethicist seeks the resultant felicific influence in a system in spite of flaws, and interprets and complements it in keeping with his own beliefs and aspirations regarding the bettering of the world. On the other hand *Volkerpsychologie* sees in the individual thinker the efflorescence of a tendency on which he is borne along and thus, understanding him in the light of larger conditions, forgives. At any rate, Professor Caldwell's conviction is that Schopenhauer, in his theory of will, had hold of "the key which unlocks all reality for us, the explanation of the whole visible and tangible world" (p. 473), but that, owing to the drift of tradition and the bent of his individual disposition, he had neither insight enough nor courage enough to work out the true and far-reaching implications of that theory. He holds that, "viewed in its realistic and positive and non-polemical aspects, Schopenhauer's philosophy is simply an *immanent evolutionism* in which the effort (natural in the case of the animals, and *spiritualised* in the case of man) of all organised existence after life and more life is made out to be the supreme characteristic of the world". "And this view of the system is the only one that the world at large will chronicle as distinctively Schopenhauer's view of things" (p. 493). Here again, the thought "that the reality of the world and of the individual consists in will," that "the significance of the world is *ethical*," naturally appeals with great cogency to an ethicist; and the main burden of these essays is to unfold the full content of that thought, and to vindicate its claims against the philosophy of the Idea that culminated in Hegel. They remind us that philosophy, since Descartes, has made too little account of the supreme all-comprising fact of action, too much account of man's reflective doubts about his action. Had Descartes but started with *Ago ergo sum!* If philosophy is to be regarded, not merely as the study of thought, but as a general systematisation of all knowledge, it cannot afford to neglect action and events; it must deal with tendencies emerging in action, and not only with the history of ideas. And, in so far as it is concerned with knowledge as real, it must face the fact that "our test of reality is the possibility of a thing affecting our will". "Every being knows about the world just what is in dynamic relation to his will and activity" (p. 99).

But Schopenhauer was a philosopher in the older sense of the word—"one trying to solve the problem of the essence of all things". Thus he walked, for all his originality and independence, in a line with tradition, and its influence weighed heavily on him. To this, according to Professor Caldwell, is due all that is or will be sterile in his thought, and all its many inherent contradictions. And the task of interpreting his philosophy resolves

itself, in this book, into a series of attempts to reconcile those contradictions where possible. This is not easy, nor indeed always desirable in the case of one who, as the interpreter admits, never concerned himself about the mutual consistency or inconsistency of one fetch of his thought with another, nor measured the success of a philosophy by its logical symmetry. He left it to the *Charlatanerei* of his great contemporary (likened by the author, with a flicker of humour, to a kind of metaphysical *Zollverein* of Germany) to make reality square with (Hegelian) thought. Schopenhauer sought to square thought with reality—a matter for progressive adjustment and re-adjustment. It is true that he is accused, some pages later, of desiring "to get, at all costs, a philosophical synthesis" (p. 337).

Letting this pass, we may note how the author faces the task he has set himself. "The whole enigma of his philosophy," we read (p. 26), "and the whole contradiction that his life was, depend on his mental effort to reconcile these two positions—that of a philosophy which says, first a metaphysic or theory and then action, and that of nature which says, first action and then theory." "The world was cleft for him into two halves (Will and Idea, or noumenon and phenomenon) which could never be brought into vital relation with each other" (p. 271 *et passim*). We are also told, the supreme contradiction in Schopenhauerism is the confusion it exhibits "between the *critical* and the *dogmatical* methods of philosophising," while its hardest problem is the effort to reconcile "Schopenhauer's teaching on instinct and passion with his notorious belief in what he called genius and the pure insight of genius". So hopeless indeed do these labours seem to be, that our author (incidentally) stigmatises Schopenhauer's philosophy of reality as, "at the outset, logical or irrational, and, in the end, mystical and inarticulate," his theory of art as too ontological and rigid, his treatment of religion as lacking in "intellectual content" and "objective reality," and his ethical philosophy (if its terminology and notions be tested by analysis and historical criticism) as one that falls to pieces in our hands. Yet, on the ground already given, Professor Caldwell argues for a broad acceptance as a whole of Schopenhauer's teachings about life. His philosophy of will was the Nemesis that overtook the philosophy of the Absolute Idea; and though his conception of will as merely automatic impulse and bare conation was inadequate and undeveloped, though in it he merely set up another *Ding-an-sich* in place of the psyche he swept away, or the intellect that he reduced to phenomenon, yet, by suggesting "a path along which the reality of the world, as a whole, can best be understood," by arousing philosophy to listen to the pulse of the life of the world, he was the pioneer of a juster, because of a more dynamically conceived synthesis of things.

Among the causes that let and hindered Schopenhauer, in Professor Caldwell's opinion, from achieving a rational and noble

synthesis were his idealistic standpoint, his contempt for and ignorance of history, and his negation of the positive import of feeling. To the inadequacy and danger of Idealism the author recurs with unwearying persistence. It is this, he finds—this excess of the idealistic temperament fostered by the trend of eighteenth century philosophy—that in Schopenhauer leads to illusionism, and so to pessimism. If the world is only an idea in my mind—or, by analogy, an effort of my will—it is, for all practical purposes, a world of illusion! Even the reality of subjective facts may come to be despaired of if that of things as external be questioned long enough. Schopenhauer, it is true, distinguished his own so-called 'transcendental idealism,' "*welche die empirische Realität der Welt unangetastet lässt*," from 'empirical idealism,' and would hereby seem to have guarded his position. But his critic is an ardent Realist and is not content, accusing him of mixing up *three* kinds of idealism and arguing from any one of them. That the long arm of Substantialism, that child of hoary Animism, had its grip of Schopenhauer is not so forcibly brought out, though here and there (*e.g.* p. 449) it is virtually made explicit. But the emphasis is ever on the disastrous frivolity of the philosopher who lets go his hold upon that Proteus, reality. The author's impatience finds vent now in assertion, now in argument. As Reid bade us open our eyes and see—and as Berkeley had urged likewise, in order to arrive at the opposite conclusion—so he exhorts his readers to trust that things "are what they appear to be to our consciousness". For this reason, that "thought is not outside things but latent in them". As my thought "comes out of my organic consciousness," so does this come out of the organic life of the world. The world is never to be thought of as something over against our consciousness. Nor is it any reason for refusing to admit that we really know things because, to become fact or idea, they have to become mental constructions for some one.

Next, that Schopenhauer regarded feeling not as a positive phase of mind, not, as Professor Caldwell puts it, as a mediator between will and intellect, but as the mere negation of intellect, is also, according to the latter, a cause of much "gaping opposition" and illusionism. We feel so much more of reality than we know. Quietism, rest, intellectual calm, so attracted him that just as he recoiled from the ceaseless working of his will-to-live, he failed no less to discern and develop the import of feeling for his dynamic standpoint. Feeling, he held, waits upon the will-to-live; we don't do things because they please us; we find or don't find pleasure in what we are impelled to do; and there was an end of it. This negative attitude made Schopenhauer ill-fitted to deal with the receptive side of æsthetic experience, just as his theory respecting the escape in æsthetic enjoyment from the will spoilt his view of the nature of artistic production.

Professor Caldwell justly remarks that a metaphysic of art is all very well in its way, but requires a preliminary psychology of the

artistic impulse. Indeed, it may possibly strike the reader as he comes across fragments of psychological consideration throughout this book, that to have collected and expanded these in one prolegomenal essay, would have afforded a most instructive criticism of Schopenhauer, supplemental to, and more specialised than, Professor Sully's admirable criticism of the confused psychology of modern pessimists in his *Pessimism*. Crude Schopenhauer's psychology is, but that would not detract from the interest of the analysis. On the 'five' senses Schopenhauer is no advance on Aristotle; and it is noteworthy that a mind so possessed with the ultimate significance of activity, and whose term of work lay between the age of Thomas Brown and Professor Bain, should have had nothing to say concerning muscular sense proper or the "consciousness of activity put forth". He might possibly have found a better "mediating element" here than even in feeling (in the strict sense of the word) to heal his pet conflict between will and idea.

Finally, it strikes our author as strange that a philosophy of the will should not have sought to connect itself more organically with the philosophy of history. He charges Schopenhauer with a vandalism in his historical allusions, which took this and left that without any respect for the organic character of knowledge as a whole. And he frequently points out how this contempt has avenged itself in Schopenhauer's shortened vision—how he failed to see in history that rational will which is the best negation of the merely blind Will in which he saw the essence of all reality. "That there is a history of the world is a justification of the world, because it means that the world has attained to something" —the author here not only citing but unconsciously improving on the German epigram in which history only brings the world to its own judgment bar (*Weltgericht*).

This callousness to history in Schopenhauer he attributes to a radical defect in his mental constitution, or, more positively expressed, to his view of time as a mere subjective process, history being 'in' time. Much, indeed, has the Transcendental Analytic here to answer for, though it scarcely seems responsible for Schopenhauer's arbitrary dismissal of the evolution of history (unnoticed by Professor Caldwell) on the ground that an eternity of time having already elapsed, everything that could happen has happened! (*Welt., etc.*, i., bk. iv.).

Elsewhere, as we know, Schopenhauer is more discriminating, rejecting untenable claims made for history, while holding it to fulfil the function of a collective reason of humanity. And it may be questioned perhaps how far he may justly be called Vandal who, first of modern philosophers, did not arbitrarily confine himself in the matter of the history of earlier ideas, to the basin of the Mediterranean, but, with much toil, broke out of the groove to discover what *all* early civilisations had thought and desired. What metaphysician since, what philosophic historian, has pro-

fited by greater facilities than Schopenhauer ever had, adequately to carry on the extended scale of consideration initiated by him? In *Pessimism*, Buddhism is described as pessimism pure and simple—a statement that careful inspection might, or might not, render untenable, but which, if true, would seem rather to call for a whole chapter to its substantiation than for barely a page. Juster proportion is observed by the late Professor Wallace in the *Encyclopædia Britannica*, yet, in his biography of Schopenhauer, this author, instead of observing Schopenhauer's care to discriminate between Brahmanism and Buddhism, attributes to Gotama an animism and a pantheism which he was ever most emphatic in denouncing (p. 210).

Schopenhauer is perhaps too positive as to the essential identity of his teaching with that of Buddha. The latter's doctrine of the impermanence of all things hardly squares either with the former's idealism or illusionism (*Māyā* is a later theory, not Buddhistic in origin). Gotama accepted the testimony of sense, but never saw in it 'surface' concealing a deeper reality. His doctrine of 'grasping' or 'craving,' involving animate things in re-birth, is no doubt virtually the equivalent of the will-to-live, but there was no noumenal self affirmed for either it or *Karma*. And while neither thinker was optimist, *if* it be optimistic to be "perfectly well contented with things as they are," Gotama was not pessimistic as to man's individual capacity of working out his own salvation of perfect holiness and happiness here below. Professor Caldwell, however, rightly refuses to label Schopenhauerism as mere pessimism. He might, indeed, have given point to this repudiation by glancing at passages fraught with a very different meaning. Schopenhauer may account most of us to be mistakes, something that had better not have been, yet one who could, as he did, aspire towards a time "when mankind would attain to such a maturity of intellectual development as to be able to produce and to receive true philosophy and do without creeds" (*Parerga*, 2te Aufl. Frauenstadt, ii., 361) is, in the best sense of the word, an optimist.

"*Die Menschheit will vorwärts, der Wahrheit zu, die Gängelbänder reissen*," nor shall the powers that be thrust him back, runs one of his briefer utterances. Yet the main drift of his philosophic deductions warrants Professor Caldwell's verdict, that, inverting Hegel's method, he always seems to be explaining the higher by the lower (p. 519). These rare chords of hope and faith are scarcely heard in the tragic symphony of will-to-live with its involution of folly and trouble, evil and pain and death, and with the resultant mandate to the wise man to crush out in himself the least stirring of the great motive principle. What was involved in the advantage Schopenhauer threw away, what that finer, because truer, superstructure of philosophical deduction might have been (had he thoroughly grasped the full significance of his advanced standpoint in recognising the claims of will)—this in a critical treatise Professor Caldwell does not do

more than adumbrate and suggest. He restricts himself to declaring "the significance of the line of thought which led to the substitution of will as a world-principle instead of reason". For instance we read:—Schopenhauer claimed in his principle of will to have united Thales and Socrates, the cosmical and the ethical order, to have found in nature a basis for conduct; and certainly "by placing the reality of human personality," not in any theory of subject and object, but in will or functional activity, he puts himself in line with the teaching of evolution, which points to attainment in the scale of being as the result of much struggle and effort, till the ethical man is developed for whom "to *will* endlessly is to *aspire* endlessly" (pp. 28, 29). We may, therefore, gather that what Schopenhauer overlooked was the fact that, in the untiring indomitable self-recuperating movement of will lies the very source and fount of a reasonable faith in the melioration of the race. As Professor Sully puts it, "the pessimist falls into the blunder of supposing that this will is the parent, instead of the natural and necessary foe, of life's misery" (*op. cit.*, p. 210). Achievement may fall short of intention, both in quantity and quality; but where men aspire there also they will achieve, and, in the long run, achieve in the cause of morality. Gotama discerned better than his first great western disciple the ethical import of this tremendous conational stream, and sought not to quench will but to divert it from mere will-to-live, that is, from being spent on mere quantity instead of *quality* of life. Energy, effort, aspiration and self-control were of no less account in his ethics than knowledge, insight and emotion.

And we are not now going to get suddenly wise by substituting "*pantheism* for *panlogism*". There are, as Professor Caldwell says, other things in the world besides willing and rushing and striving. But many would await with interest the fuller exposition in a more purely constructive work of the issues involved in the juster standpoint opened up, according to these essays, by Schopenhauer.

C. A. F. RHYS DAVIDS.

Die Grundprobleme der Logik. Von JUL. BERGMANN. Zweite völlig neue Bearbeitung. Berlin: E. S. Mittler und Sohn, 1895. Pp. 232.

THIS book is a second and improved edition of Dr. Bergmann's work bearing the same title, which was published thirteen years ago, in elucidation of parts of his previous book *Reine Logik* (reviewed in MIND, Jan., 1880).

The present edition of *Grundprobleme der Logik* contains an Introduction of some thirty pages, and two Parts, namely (1) Thought and Knowledge in general; (2) Advance in Knowledge.

The Introduction discusses the Scope of Logic, Formal and Metaphysical Logic, The Nature of Cognition and the Divisions of Logic. The author begins by insisting that Logic is concerned not simply with the Laws of correct thinking, with Thought as it ought to be, but with thinking generally in reference to its inherent fitness for attaining the ends of knowledge and science, and the means which appertain to those ends. Thinking (Denken) is the same as judging (Urtheilen), namely, the mental activity to the products of which the epithets *true* and *untrue* are applicable. But mere thinking is not Cognition. Cognition is thinking which is true and is on right grounds, or, by reason of adequate evidence, believed to be true.

It may be remarked here that the distinction between Thinking and Cognition, and the division of Judgments which we get on these lines do not seem, from the point of view of logical doctrine, to be theoretically elucidating or practically applicable. We might draw the line between isolated judgments and judgments taken in connexion with others; between those proved and those not proved—or (perhaps) between those proved true and those proved untrue; but if Cognition includes only judgments proved true, where are judgments proved untrue to be placed? they seem to be neither Cognition nor mere thinking. And we cannot tell whether the Judgments of others are true and proved, in cases where we do not know the grounds on which they hold them. Again, we cannot apply the distinction to beliefs of our own which we accept on what seem to us sufficient grounds. Whether we divide "Judgments" into true and untrue, or reserve the appellation for those Predications which *are* true, we seem to reach the result that a Predication accepted by both A and B as true, may be true in A's case and untrue in B's.

However, there is no doubt that what we ask concerning judgments, *qud* mere isolated judgments, is not what they *ought* to be, but what they actually are. What is it that we *do* in judging? is here the question; and thus there seems good ground to accept the rectification of current definitions of Logic which Dr. Bergmann suggests.

Logic, as he conceives it, is contrasted on the one hand with (1) Formal, on the other hand with what is called (2) Metaphysical, Logic. Kant is mentioned as the principal exponent of Formal Logic, Trendelenburg and Harms as writers who treat Logic as metaphysical; and Ueberweg as a logician whose treatment has been much influenced by their view. Hegel's *Logik* is pronounced to be pure Metaphysics and not Logic at all in the traditional sense of that term.

Bergmann gives (p. 17) his own view of the relation between Logic and Metaphysics as follows: "Logic is, in other words, the Science of the process of Knowledge, whilst Metaphysics has to do with the content of Knowledge. . . . Logic and Metaphysics are so far connected that each requires the help of the

other for the solution of its own problem. The problem of Logic cannot be solved without the help of Metaphysics. For Logic aims at a knowledge of the correct and normative forms of thought; but only those forms can be correct which correspond to the content of thought; hence in order to know them, it is necessary to understand them in their relation to Being, to the object of thought; and this can only be done by help of the Science of Being, *i.e.*, of Metaphysics. And conversely, Metaphysics depends just as much upon Logic and cannot be treated in isolation from it, for Being is but the presupposition and raw material of knowledge, and cannot be comprehended apart from Knowledge."

Of what is ordinarily called Material or Inductive Logic, the author can hardly be said to treat, as it only comes in for a very cursory discussion along with Probability, Analysis and Analogy in § 33, with occasional isolated references elsewhere, as when he says (p. 139) that the only really fallacious Immediate Inferences are those called Formal.

"The problem of Inference," it is observed by Mr. Bernard Bosanquet, "is something of a paradox. Inference consists in asserting as fact or truth, on the ground of certain given facts or truths, something which is not included in those data. We have not got inference unless the conclusion (i.) is necessary from the premisses, and (ii.) goes beyond the premisses. To put the paradox quite roughly—we have not got inference unless the conclusion is (i.) in the premisses, and (ii.) outside the premisses." This problem lies at the very heart of Logic, and the problem of differentiation in unity which meets us in the theory of Judgment is in essence the same. The present book of Dr. Bergmann's may be described as a gallant attempt to overcome the paradox indicated, in the various forms in which it appears in logical theory.

This comes out in his treatment of Judgment as contrasted with Idea or Concept (he treats Vorstellung and Begriff as synonymous)—in his distinction between Affirmative and Negative Judgments, in his Division of Judgments—and very strikingly in his account of Analytic and Synthetic Judgments, and of Immediate Inferences. We find again the same effort after a true unification in his discussion of the Principle of Ground, and its relation to the Laws of Thought and other fundamental logical laws, and in his view of Mediate Inference.

And it is the same aim which animates his strenuous and repeated efforts (in §§ 8, 19, 26) to unify Thought and Existence, by exhibiting Knowledge (=Truth) as *Thought* which has been guaranteed by an appeal to *Being*.

It is not of course possible within the limits of this notice to discuss Dr. Bergmann's views on all these points, or others to which, in his short preface, he makes special reference. I have selected a few of them for examination.

"In every judgment (we are told) something is affirmed or denied of something" (§ 13);—thus "every judgment contains as its presupposition and basis the mere positing or ideating of an object" (Gegenstand). (On the other hand there are many ideas to the positing of which a number of judgments must have been preliminary.)

But there is more in judgment than this, and a judgment (p. 69) is not about the idea which it contains, but about the thing, which that idea is the idea of. *E.g.*, in the judgment that *Ellipses are conic sections*, I go beyond the relations of extent which obtain between the concepts of *Ellipse* and *Conic Section*, and so on, and judge of the *ellipses themselves*, that they are conic sections. Judgments are neither ideas nor combinations of concepts, and cannot be resolved into such (§ 14). Hence the meaning of Judgment cannot be elucidated by a mere reference to the meaning of Concept. Judgment, like Vorstellung, is unique, and cannot be explained by reference to anything other than itself. We may say, however, that every judgment which affirms of any thing or class of things, refers, to the subject of which it judges, some determination, which *may* indeed be the content of another concept, but need not necessarily be so. If a determination is referred to a thing, the thing is of course thought (ideated, conceived of), as with this determination. Thus the determination predicated in an universal affirmative judgment always makes part of the content of the notion which the person judging has of the subject of his judgment (p. 72). As already pointed out, Bergmann distinguishes between Predication and Judgment—or (as he also expresses it) between a wider and a narrower sense of Judgment. Predication or Judgment in the wider sense, means the mere reference of a determination to a Subject. This reference is necessary for judgment in the narrower sense, in which there is explicit acceptance or rejection, explicit recognition of the validity or invalidity, of the reference which constitutes the predication—thus within the sphere of Judgment in the narrower and proper sense, we get the distinction between affirmative and negative judgments.

Every judgment in the narrower sense, says Dr. Bergmann, contains first, an idea—that is, the positing of an object—second, a predication—that is, the reference of an ampliative determination to an ideated object; third, a critical attitude towards this Predication, a decision concerning its validity.

The above view of negation involves that before I can assert *S is not P*, I must have before me the suggestion *S with P*, or *S is P*, and reject it—as affirmation in the truest sense involves that I must have before me the same suggestion and accept it. (Could we not equally well start with *S is not P*, and get denial or affirmation by means of its acceptance or rejection?)

No doubt before P can be either affirmed or denied of S, the ideas of S and P must be before the mind, as not only simul-

taneous but contrasted;—but *if* of affirmation and negation one is psychologically or historically prior to the other, I would suggest that it is negation and not affirmation that is primary. Before I can say *S is P* I must have distinguished *S quâ S* from *P quâ P*, so that *S is P* must have been preceded by *S* (*quâ S*) *is not P* (*quâ P*).

It appears that *S is P* and *S is not P* deal with different orders of relation. In *S is P* there is one 'object' before the mind to which the two determinations or ideas are referred. S and P are in a certain way contrasted, and the unity of conjunction in one thing or object is attributed to them. In *S is not P*, on the other hand, not merely is there a contrast or comparison, but it is a contrast between two mutually exclusive objects. There are two 'ideas' in this case too, but they are distinguished not merely as ideas or determinations, but also as being assigned to different *things*.

This is not That, might be supposed to be the original form of negative judgment, and exhibits clearly enough its essential character as the simplest of relative judgments. And it is not only presumably primary, but is implicated, throughout our consciousness, in that distinction of things from one another which is necessary for the apprehension of system and even of mere plurality. No doubt, on further reflexion, further implications—as that *This* and *That* belong to one world or whole—and elaborate relations between negations and their corresponding affirmations, are arrived at—but these we need not now consider. If we take the view that negative categoricals *quâ* negatives are 'relative' propositions, while affirmatives *quâ* affirmatives are 'absolute,' we get an interesting starting point for the systematisation of all Propositions as Absolute or Relative.

Returning to Dr. Bergmann's view, we find that on the one hand between Concept (or Idea) and Predication, and on the other between Predication and Judgment Proper (which latter may be described as a judgment about a judgment), the line is not clearly drawn—for if a predication is more than a concept, is it less than a judgment? and whatever may be the characteristics of judgment, if *S is P is true* expresses a judgment, does not *S is P* equally express one?

Under the category of Judgments about judgments come Hypotheticals and Disjunctives, and in most of the instances adduced of ampliative analytic judgments, the Predicate is an Immediate Inference from the Subject (*e.g.*, The line from *a* to *b* = the line from *b* to *a*); and Immediate Inferences and Categorical Syllogisms are easily shown to be naturally expressible as Hypothetical Propositions. And the blurring of the lines between the different groups is here not due to the practical obstacle of the occurrence of cases difficult to class precisely, but (I think) to the author's view of the fundamental unity between Idea (Concept), Predication, Judgment and Inference. What one does not feel

quite sure of here is, *what kind* of unity it is that is supposed to connect the different elements. Such a qualitative unity as holds together, *e.g.*, the different species of *triangle* seems rather to be suggested. But there are other kinds of unity of which some seem more appropriate to the present case than the merely qualitative kind just referred to—which, whatever its importance, is certainly not directly applicable to every judgment.

According to Bergmann we have Immediate Inference when from one judgment or proposition we pass to another having *the same* (or part of the same) matter (Sachverhalt) but a different way of looking at it (Auffassung). Thus, from *All S is P*, *Some P is S* is an Inference—but *Some S is P* is not an Inference from *All S is P*.

But is not this (and *cf.* other cases) an arbitrary distinction? Must we not say that wherever there is an Inference of one proposition from another, one of the two propositions is true if the other is true, and there must be *some* difference between them?

But, *what* difference? What constitutes them two different propositions? It seems to me that the only answer is, *Any* difference—for it would appear that *some* difference of thought, however slight, must correspond to *every* difference of expression —so that we should get the definition: If any two propositions differ in *any* respect, and one of them is true if the other is true, the first is an inference from the second. It does not do to say simply that there is *Unity in Difference* between the two propositions compared. There is also *unity in difference* between S and P of any Categorical Proposition, and between *This pencil* and *That pencil*, and these are only two out of the kinds of unity in difference which are possible.

What is it that is really at the bottom of any Inference?

Let us take any case of an affirmative Categorical—say *All R is* (*some*) *Q*. The speaker here has in mind an object or group of things having the characteristics signified by both *R and Q* which may be symbolised by $\left(\begin{matrix}R\\Q\end{matrix}\right)$ or $(R.Q)$; it is *the R's that are Q* that he is referring to, and the things that are *both R and Q* may be indicated as *Q's which are R*, or *R's which are Q*—thus we justify conversion in the case of affirmatives. And *any one* of the R's is Q, since *all* are. It does not appear clear why this passage from A to I should be refused the name of Inference, which (by Bergmann) is allowed to the change called Conversion. There may be quite as truly a change of *Auffassung* in passing from *All R is Q* (1) to *This R is Q* (2), as in passing from (1) to *Some Q is R* (3); and in (3) also we assert concerning only a *part* of the *Sachverhalt* referred to in (1).

It seems here that Identity of Application (in conjunction of course with the plurality and connectedness of attributes that

everything has) is, as it were, the pivot on which Inference turns; and this comes out perhaps even more strongly in the case of syllogistic inference—it is because of this that the presence of a true Middle Term is the only condition necessary in order that some conclusion may be drawn from any pair of premisses.

Bergmann allows that as regards syllogistic Inference there is inference in passing from $\left.\begin{matrix}\text{All M is P}\\ \text{All S is M}\end{matrix}\right\}$ to All S is P.

But what is the *Sachverhalt* in (1) All M is P, (2) $\left.\begin{matrix}\text{All M is P}\\ \text{All S is M}\end{matrix}\right\}$ respectively? In as far as the matter of fact is concerned it would seem that what is before the speaker's mind in (1) is something which is *both M and P*, and what is before him in (2) is something which is at the same time *M and P and S*. And there would seem to be *as much* a difference of *Auffassung* between (1) and *Some (or This, etc.) M is P*, as between (2) and *All (or Some) S is P*. If difference of aspect or emphasis is all that is needed for Inference, Sub-alternation seems as much inference as Conversion; if not, are not the conclusions of syllogisms in Figs. 1 and 2 *not* inferences, while the conclusion in the third and fourth Figures *are* so?

Dr. Bergmann's view of Analytic Judgments is a part of his doctrine to which he draws special attention in the Preface, and it is connected in an interesting way with other parts of his theory. According to him, we can have 'Analytic' Judgments which "enlarge knowledge"; that is to say, Judgments in which the Predicate, though in some sense 'contained' in the Subject, yet adds to the information conveyed by the Subject. He distinguishes (§ 20) between Analytic and Synthetic Judgments as follows:—

"For the recognition of a Judgment as true or untrue, the object [of the Judgment] need be brought up for comparison (1) only in as far as it is set before the thinker by the Subject-notion (= the notion which is the ground of the Judgment and is restricted to its constitutive content); so that the predicated determination—though no part of the constitutive content of the Subject-notion—yet is, after a fashion, contained in it; or (2) something more of the object must be taken in than is included in the notion that is the ground of the judgment—in other words, there is needed an intuition of the object which goes beyond the apprehension of the bare Subject-notion. *E.g.*, in order to recognise the truth of the sentence $2+3=4+1$ by mere comparison with its object, this object need only be taken into account in so far as it possesses the determination by which the Subject-notion of the sentence marks it out as distinct from all other objects. Assuming that the sum of 2 and 3 had other properties besides those which are somehow contained in being this sum, these might be entirely left out of account. And we might convince ourselves in the same way of the untruth of the sentence:—

The sum of 2 and 3 is not equal to the sum of 4 and 1.

On the other hand, in order to prove the truth of the sentences 'This apple is sweet,' 'This apple is not sweet,' by comparison with their object, it is not sufficient to contemplate in the object that which is signified by the designation 'This apple,' namely, the qualities on account of which I call a thing an apple, and the relation to me, the speaker, which is expressed by the word *This;* I must add to these its taste [as sweet or not sweet]—a characteristic which is neither common to all apples, nor contained in the relation expressed by the word *This*" (pp. 100, 101).

That in such Judgments as $2+3=4+1$ there is amplification need not be disputed, but whether such ought to be called Analytic is another question. It is certain that the idea of $2+3$ is *not* the idea of $4+1$, and equally clear that whoever has before him $2+3$ things, has therein what is numerically equal to $4+1$. But it seems quite possible for a person to have arrived at counting 2 and 3 without having arrived at counting 4—as it is possible for him to have perceived that two sides of a triangle are equal, without having also perceived that that triangle must have the angles at the base equal; though no doubt further examination of an isosceles reveals the further fact that it is, and must be, equal-angled, that the 'object,' in as far as it has the first property, must have the second. But the distinction and test by appeal to the 'object' and comparison with it of the notion or idea, seems difficult; for if the 'object' is more or other than idea, then it would seem that in any case the *whole* object with all its properties must be there, and any of its properties may be appealed to. On the other hand, if *Gegenstand = Vorstellung* or *Begriff*, the test seems arbitrary and ineffective.

And the truth or untruth of Analytic Judgments is tested by reference to the 'real existence' of their 'object'. But what exactly is to be understood by 'real existence,' and by what test can it be established in any given case?

The whole treatment of *Sein* and its bearing upon Truth is one of the most difficult and interesting portions of the book; but I fear I must admit that it is likewise among the least satisfactory. It abounds however in close and penetrating thought, and is worthy of very careful consideration. The book is one which could not be read without both pleasure and profit by any thinker interested in logical and philosophical investigation; at the same time it is difficult to do justice to it within the limits of a short notice.

E. E. Constance Jones.

L'Immanence de la Raison dans la Connaissance Sensible. Par Gédéon Gory, Docteur ès Lettres. Paris: Félix Alcan, 1896. Pp. 344.

I may best indicate the author's main contention by contrasting with a truer view what seems to me to be its fundamental defect.

This defect is a confusion of the regressive process of thought by which certain transcendental principles are found implicit in ordinary experience, with a process of mere abstraction. By the latter process we arrive only at abstract products of thought which we then attempt to make into determinations of realities beyond experience. This is the "transcendent" use of Reason which is rightly declared by the author to be impossible; but apparently he has not considered the possibility of the other view. The critical reflexion—here I quote Dr. Caird—"is not a process by which we empty experience of certain elements which distort its apprehension of things in themselves, but a process by which we recognise behind and beneath experience certain elements of which it does not usually take account; though without these elements experience could not apprehend anything, and for want of the consciousness of them it does not apprehend anything as it really is. Hence the object of the critical philosopher must be, not to dismiss any of the elements of experience that he may find the pure expression of truth in what remains [*i.e.*, reason is not transcendent in the sense intended by M. Gory]: but rather to correct our ordinary abstract and incomplete view of the world by taking account of the factors which that view neglects." If this line of thought is developed we are led to reject the thesis which M. Gory, following Renouvier and Taine, makes the basis of his system: *i.e.*, that "experience" or the "sensible representation" is "spontaneous, independent, and absolutely true". At the same time we are led to reject the view of the thing-in-itself with which Kant started, not, however, with M. Gory, in order to regard experience as self-contained: but in order to regard it as being in its very nature an intelligible, but partial and fragmentary, revelation of an absolute Reality. This line of thought is wholly ignored by the author: presumably because—so far as the evidence of this book goes—he appears to have no comprehension of the philosophical principles developed by Kant's successors, or even of the deeper elements in the Kantian philosophy itself.

His position is worked out as follows. The question which Reason propounds is—What is the *ultimately* Real? The Ideas of Reason are the principles and predicates by which it endeavours to interpret the nature of the Real; hence the question, What is the sphere of their *legitimate* derivation and application? is the question of philosophy. The Real is experience itself, in the analysis of which the Ideas find their only just and legitimate use: knowledge is simply the analytical development of the "representation". This is the "Immanence of Reason": "dire que la Raison est immanente, c'est dire que l'Etre lui-même est connu dans l'expérience, et qu'en dehors d'elle il n'y a d'aucune réalité ni aucune possibilité quelconque; c'est dire que la Raison peut trouver dans l'expérience une pleine et entière satisfaction, et que la pensée est capable de connaître la vérité" (p. 4; *cf.* pp. 42, 43). On the other hand, to say that Reason is transcendent, is to

say that experience is a mere phenomenon, veiling an unknowable Beyond. This ready-made alternative exhausts all possibilities for the author. The next question is, how are the Ideas to be derived (*dégagées*) from experience? M. Gory notices and rejects the Kantian attempt to find them as *limits* of empirical series (whose nature is to have no such absolute limits,—hence the dialectical character of the Ideas with Kant): and he substitutes the method of "progression,"—a development of what is *contained in* the sensible representation (*des puissances qui sont en elle*). This can be continued *indefinitely*, in two opposite directions,—at present by imagination only; but the notion of an infinite extension, or a finite limit, is quite inapplicable to the process, which deals with what is presented or imagined only. The "representation," further, is not the unity *of* a manifold but is an immanent unity (pp. 33-35), hence analysis alone can disengage its aspects, not abstraction: we soon see, however, that it is analysis of "abstract representations" which the author has in view,—time, space, substantiality, causality. The Ideas of Reason are only the terms of abstract relations, used apart from those relations in which alone they are thinkable. Proceeding to the analysis, we find that the most abstract and universal aspects of experience are, a principle whose nature is to determine, and one whose nature is to be an object determined; these are only thinkable in distinction from each other,—the thought by which we distinguish the latter from the former is the same as that by which we distinguish the former from the latter. In experience, their correlation assumes four forms: the mathematical point and the pure continuum of space; the mathematical instant and the pure continuum of time; the pure cause and the pure effect; the pure substance and the pure mode. Involved in these relations, as manifested in experience, is a unity which is the synthesis of their terms, and in which alone they are real; this is the unity of consciousness: not (as with Kant) a subjective form of synthesis, but the immanent unity of every form which the fundamental correlation assumes. Thus M. Gory, in his anxiety to uphold the "immanence" of thought, has left no place for the real nature of knowledge as a process of reference: the knowing and the known become absolutely identical.

The author thinks that all systems of "pure metaphysic" have the incurable vice of employing one or other of the Ideas as a thinkable predicate of reality or realities beyond experience; and in his second and third divisions he proceeds with much ingenuity to characterise and classify metaphysical systems from this point of view, giving the outlines of a systematic pathology of philosophic thought.

In the fourth and last division of the book he points out the only "natural and legitimate" use of the Ideas, *viz.*, in their syntheses: for by these we are brought back to experience. The synthesis of the ideas of the point and the spatial continuum,

gives the representation of a limited and determinate space,—a figure; of the instant and the temporal continuum, a limited and determinate time; of this character are the only real spaces and times,—those of experience. Dialectic or antinomy arises only when Reason employs one side of the relation by itself,—the continuum only (the determined principle) or the point only (the determining principle): it is met by pointing out the necessary implication of the other term of the relation, and so coming back to experience. This is suggestive, and invites comparison with the Hegelian doctrine that the Continuous and the Discrete imply one another. With regard to pure cause and pure effect, their mere synthesis in the causal relation is insufficient: this relation corresponds to nothing real if we exclude *finality* from it: determinate causality, the causality which is real or in experience, is always for an end. Speaking of the Cartesians, M. Gory says: "comme ils écartaient rigoreusement les causes finales de l'explication théorique du monde, ils reconnaissaient que, dès lors, la causalité dans le monde, loin d'être absolument déterminée, était absolument indeterminée, . . . à cause de l'indépendence des moments du temps; et c'est ainsi qu'ils étaient amenés à la théorie de la création continuelle" (p. 269). The only real cause, then, is Consciousness. Similarly the determinate realisation of the relation of Substantiality is in the unity of Thought. This important doctrine of the necessary implication of an End in causation springs up suddenly, from nowhere, in the author's system. He might have considered whether End is not itself an Idea of the Reason; whether much of the plausibility of his attack upon the "transcendent" use of the Ideas does not arise from the fact that he has taken account only of Ideas derived from the mathematical and mechanical categories; and, if so, whether he need have concluded that the causality and substantiality of the thinking consciousness are only conceivable in distinction from the Idea of a continuous indeterminate Matter in the representation of the psycho-physical Organism (p. 272). From this point onwards the author's ingenuity becomes more conspicuous than his insight. The Organism is the individual whole, as such. In experience, in the concrete, the representations we have been dealing with are all united: every substance is itself a cause and fills a determinate space and time: this union constitutes the individual whole. It is an entirely concrete synthesis, *embracing* all the other syntheses. In experience, whatever is not a psycho-physical Organism is a mere image or sensation without any individuality, reality, or independence (p. 284). Reason propounds the problem of *explaining* the organism. It can only do so by means of two correlative Ideas, which must be such that by abstraction all the other Ideas can be discovered in them. These are the Ideas of the Perfect and the Infinite: the former being the determining, the latter the determined. The author then proceeds to give a description of the organism which at once reminds us of

the Leibnitian monad (pp. 289, 295). The plurality of organisms he seems to accept, and he recognises the difficulty of accounting for one such being's knowledge *of another*, which breaks through the "immanence of Reason" in the former (p. 290). After rejecting Renouvier's solution (that there is a universal whole, finite and determinate, but at the same time inconceivable), he takes our breath away by *identifying* the individual and the universal whole, and ignoring even the appearance of difference between them. We turn with something more than interest to the one chapter which remains, to discover how the sea of difficulties that surges round such a position is to be driven back: but we find that only our curiosity, and nothing more, is satisfied.

I am forced to conclude that the author has only accomplished a general demonstration of the irrationality of his fundamental dogma—the Immanence of Reason—as he understands it.

S. H. Mellone.

VII.—NEW BOOKS.

Elements of Psychology. By George Croom Robertson. Edited by C. A. Foley Rhys Davids, M.A. London: John Murray, Albemarle Street, 1896. Pp. xi., 268.

Elements of General Philosophy. By George Croom Robertson. Edited by C. A. Foley Rhys Davids, M.A. London: John Murray, Albemarle Street, 1896. Pp. xiii., 365.

The first of these works—the *Elements of Psychology*—is noteworthy on more accounts than one. It is, almost from beginning to end, the reproduction from students' notes, of the late Prof. Croom Robertson's lectures—so successfully done that those who knew Robertson personally, feel, at every turn, that he is here faithfully and accurately represented. This is encouraging, surely, to toiling and desponding professors, who are often haunted by the fear that their teaching is but imperfectly caught by their pupils. But the book is further remarkable for its strict adherence to the psychological standpoint, and its clear and methodical treatment of the subject in hand—tracing with much insight the growth and development of the mind, and weaving into the exposition so much of historical matter as is necessary for lucidity, and not overcrowding with detail. It becomes, on this account, eminently suitable for the end that the series of University Extension Manuals in which it appears has in view.

In order, however, to judge it fairly, we must be ready to make one or two allowances. We must not forget that there is nothing here prepared for publication by Robertson himself; nothing, therefore, that received his own final revision. The consequence is that some things are stated too bluntly—particularly some criticisms on contemporary writers; and positions that are reiterated, or that crop up at various points, are not always enunciated with the same degree of emphasis. It is puzzling to a learner to find a statement made with confidence in one place and thrown out tentatively, or rather timidly, in another. All this, of course, would have disappeared had the author himself had the opportunity of revising. Several gaps also would have doubtless been filled in. Robertson would not have allowed a work like this out of his hands without some treatment of the psychological aspect of Cause and Causation; nor would he have omitted, as is here done, to give some account of Time and of Number. All this is mentioned simply in justice to Robertson himself, who was, above all things, conscientiously exhaustive; not with any view to detract from the value of the production itself.

The standpoint throughout is, of course, that of Experientialism; but it is Experientialism in its ripest and most efficient form. Everywhere there is shown a thorough acquaintance with and interest in the latest psychological doctrines and researches; and, no matter from what

quarter it comes, light is welcomed if it is found to be light, and new truths have their bearings scrupulously canvassed, and their importance estimated with reference to the lecturer's fundamental position. It will here be seen, perhaps for the first time, precisely how far experientialism has advanced within the present generation, and what power it still possesses of meeting and adapting itself to the ever-altering circumstances of progressive thought. Nowhere is this better exemplified than in the exposition of the place and importance of Muscular Sense, or Active Touch, in the building up of our knowledge of an external world. Robertson is a doughty champion here—with a due appreciation of all that is freshest and best in recent writers on Psychology. This presentation of the case will have to be specially reckoned with by assailants of the general standpoint. Further than this there is no need for specializing. All the processes connected with knowledge (Sensation, Perception, etc.), are passed under review, and care is taken to keep distinct things that differ (seen conspicuously in the handling of Sensation); and Feeling and Will (or, as Robertson prefers to call it, Conation) are also handled, though much less fully. The last lecture in the book (the thirty-sixth in number) is on "Attention and the Ego". Here alone does the treatment seem to be inadequate. The vast importance of the subject of Attention demands a fuller, and perhaps an earlier, exposition. In this place, however, as elsewhere, the thought is fresh and the expression of it pointed; and of the whole work it may be said that it is essentially modern and thoroughly well adapted to the requirements of the young students of psychology of to-day.

The *Elements of General Philosophy* is, speaking broadly, a sustained attempt (all the more welcome as it has scarcely before been done in Britain) to keep Epistemology separate from Psychology, and to treat the problems of Knowledge on the lines marked out by Kant. Indeed, the work may be regarded as a kind of critical exposition of Kant; showing much appreciation of the Copernicus of philosophy, yet fully alive to his weak points. Part i. consists of seventeen lectures on Philosophy and Theory of Knowledge, to which are added two lectures, dealing respectively with "Regulative Philosophical Doctrine" and "The Basis and the End of Ethics"; and Part ii. consists of ten lectures of a special historical character—dealing with Plato's Epistemology, Aristotle's Psychology, Descartes' Cartesianism, and Kant's Critical Philosophy. But, in both parts alike, Kant is the leading and dominant figure; and all the questions are argued with an ultimate reference to him. The result is that this second book comes as a kind of *eirenicon*—an attempt (wonderfully successful) at reconciling the views of opposing schools—in particular at reconciling Kantism and Experientialism. Taking experientialism in its latest and highest form, Robertson emphasizes the two facts of Heredity and Language, and maintains that in these we find the explanation of the *a priori* element in knowledge, which it was Kant's great merit (as against Hume and the earlier Experientialists) to accentuate; yet not here alone. Let us see how the reconciling is done. Take, for example, our knowledge of Space. Granting to the Associationists, especially to J. S. Mill and Prof. Bain, the important part that Association plays here, Robertson will not allow that the connexion between Extension and Colour is a case of "inseparable association". Association gives only what is practically, not theoretically, inseparable. In the connexion in question there is a "necessity" involved, which Association does not account for. But, on the other hand, this "necessity" is not mental or intellectual (as Kant maintains) but "*organic*"—a necessity of our constitution, and not of acquired experience. "If, con-

stituted as we are, some sense organs only are muscular, and if it is the fact of muscularity whereby we have apprehension of extension, it becomes a necessity for us to have *those* sensations 'in' space. We are so ordered, through the mobility of our hands, eyes, etc., as to have those sensations so. Here is the explanation of this necessity—*because of our organic constitution*. . . . We make, we determine space; we come to know it by way of construction—not of *a priori* construction, not of spontaneity of thought, as Kant said, but by conscious bodily exertion, not limited by occasions of passive sense-impressions [*i.e.*, not had merely by experience from without, but by activity of ours put forth, springing from within]. And this is because we are what we are. We are thrown back on our original constitution. Hence it is that the science of Space is different from the inductive sciences of nature; hence it is that mathematics is a demonstrative science. The explanation applies to all sciences in so far as they are demonstrative—to arithmetic and physics, *e.g.*, as well as to geometry—for all are, to that extent, concerned with matter as apprehended by activity, by construction; and herein lies their 'necessity'. Other sciences we form piecemeal from experience."

This being so, Robertson is willing to admit, with Kant, that Space, although not itself a simple experience, is a "form": all simple sensations come to have a reference to it. But he denies that it is a "pure intuition". His reason for this is, that it can be psychologically explained. Furthermore, he maintains, as against Kant, that space is no *universal* form of external sensation. True, "every sensation does come to have some kind of spatial reference—*more or less*". But "there is all the difference in the world of DEGREE. For that difference of degree we must account in detail, and this puts a check on our agreeing with Kant's superficial assertion, that space is form for all sensations alike. Do the notes in the scale of an octave or in a chord appear to us spread out in space like the colour-spectrum? It is true that we should hear them as 'in space,' yet the spatial order is very different."

Thus does Robertson attempt to mediate between experiential psychology and Kantian teaching. But he attempts also to conserve what is good in discredited distinctions nearer home—as, for example, in the distinction between the primary and secondary qualities of Matter. And, in dealing with Knowledge and Belief, he insists strongly that, while from one point of view knowledge is requisite for belief, in another aspect of it belief is presupposed in knowledge. Take the case of our knowledge of external reality. This is impossible without the tacit assumption of the uniformity of nature. But this tacit assumption is simply belief. There is a lack here of that precision which usually characterizes Robertson. The distinction should be drawn between "belief" and "faith," and the latter term restricted to such primitive *trust*, or native confidence, as we place in postulates. Were this done a great deal of dispute—mainly verbal, after all—would be at once got rid of.

It is very satisfactory that we have in this book so much about Kant—of whom Robertson made a special study, extending over many years. It is a pity that we have not a similarly full account of Leibniz, to whose doctrine of Monads, as expressing the ultimate philosophical analysis of the universe, Robertson gave his adherence. We should have liked also to hear more about Spinoza,—whose Epistemology is one of the finest things that the Cartesian School ever did, and whose psychological analysis of the Emotions in Part iii. of the *Ethica* scarcely finds a parallel till we come to Dr. Thomas Brown and Professor Bain. But

these blanks cannot now be filled; and they in no way detract from the value of the matter that is here presented to us.

True to the Robertsonian tradition, Mrs. Rhys Davids has consulted the convenience of the student, and has added to each of the manuals an admirable index. WILLIAM L. DAVIDSON.

Juvenile Offenders. By WILLIAM DOUGLAS MORRISON. London: T. Fisher Unwin, 1896. Pp. xi., 317.

This strong book deals widely with its subject. Juvenile crime is first studied with reference to its extent and distribution, then as conditioned by the sex, age, physical and mental state of the offender, as well as by his family history and economic position. The treatment of juvenile crime is the subject of the second part, which is divided into sections dealing with admonition, fining, corporal punishment, imprisonment, and corrective institutions. Much of the work is based on statistical returns, but the author uses figures with discrimination, neither losing sight of the variety and complexity of the conditions which rule a resulting total, nor neglecting to give a convincing impression of the unit. We have here a wide knowledge of the subject from the official point of view, informed by an intimate practical acquaintance with convicted boys and girls.

All the present methods of treatment are studied and all new suggestions are made under one view of the juvenile offender—that he is a child whose character (rather than his isolated acts) is a danger to society, and whose character must be stimulated and educated into normal constitution. However crime should be treated in adults, certainly the treatment of children must be therapeutic, and it is perhaps the chief interest of this work that it enters fully into every part of its subject under this point of view. The author finds many features of our present system to be radically evil when they are tried by this satisfying criterion. "The habitual criminal is in far too many cases a product of prison treatment. . . . The value of prison regulations is not to be tested by the behaviour of prisoners within the prison walls." A thoroughly therapeutic treatment means an individualised treatment, and the great practical difficulties which beset this individualisation are the chief barrier in the way of a satisfactory advance in our methods. This point, which recurs in several places but is chiefly worked out in relation to the interdiction of certain localities of abode, notably large cities, and in relation to the treatment of children in corrective institutions, is made to yield certain valuable suggestions. Corrective institutions should be small; when unavoidably large they should be divided into sections, and each section should be placed in charge of a superintendent who will be able to acquire a thorough knowledge of the capacity, disposition, and aptitudes of every individual child; the bodily and mental condition of every child should be the subject of a thorough examination at stated intervals. *Juvenile Offenders* is easily read but not easily forgotten, and it will be of service to many who take serious interest in social matters. G. SANDEMAN.

Philosophy of Theism. Being the Gifford Lectures delivered before the University of Edinburgh in 1895-96. Second Series. By ALEXANDER CAMPBELL FRASER, LL.D. Edinburgh and London: Blackwood & Sons, 1896. Pp. xiii., 283.

The first series of Prof. Fraser's Gifford Lectures was published last year, and noticed in our April number. It was intended to "evoke our

latent sense of the mysterious infinitude of the ever-changing universe," and to contrast the chief modes of philosophy which undertake to rationalise this awakened sense of mystery. Monism, in its three modes, materialistic, panegoistic, and pantheistic, was examined and found to involve universal nescience, and was abandoned in favour of a conception of the universe of things and persons worked out on a *homo mensura* principle and method, and in favour consequently of certain postulates suited to man's place intellectually intermediate between omniscience and mere sense. In the present series of lectures, this method is pursued into its theistic achievements. Half the new volume is devoted to a positive justification of theistic postulates, on the ground of man's intellectual and moral nature and limitations, and half to the removal of the contradictions which experience seems to offer to such postulates by the presentation of evil along with good in the course both of natural events and of human volitions. Prof. Fraser recognises the just criticism made on ordinary psychological epistemology, that we are there assuming we know something in order to prove that we do know something, or do not know anything, as the case may be, but he contends that it is a different thing to assume that something is knowable by man before we proceed to show that not everything is knowable, that omniscience is beyond human reach. The arrest of the understanding before the infinities is the opportunity for the play of our moral nature, which now by an activity which may be distinguished as Faith brings us into relation both with cosmic order and with final goodness. The *via media* between the impotence of mere empiricism represented by Hume, and the over-confidence of rationalism represented by Spinoza, is a Philosophy of Faith.

Prof. Fraser's references to theistic literature are comparatively few, the circumstances of his lectureship having led him to attempt an exposition of his own philosophical views on Theism, rather than a critical discussion of current Theistic literature such as is attempted by Mr. Lindsay in the book noticed below. His book is on this account most valuable as an introduction to be used by all students of Theism, and is of special interest to students of philosophy. Its usefulness is increased by a good marginal analysis, by recapitulations judiciously introduced into the text, and above all by the uniform use of clear and restrained language.

Recent Advances in Theistic Philosophy of Religion. By James Lindsay. Edinburgh and London: Blackwood & Sons, 1897. Pp. lvi., 547.

This book takes a wider sweep than Prof. Fraser's. It includes, besides a survey of the Philosophy of Theism in its stricter meaning, a shorter estimate of what the author calls Philosophy of Natural Theology, really the comparative psychology of Religion; and in his survey of what he calls Theistic Philosophy of Religion (Man) occur several further topics of Psychology, Functions of Reason, Personality, Freedom, Immortality, etc., which have become associated with Theistic Philosophy proper. But the distinctive claim of the book is its comprehensive references to authorities. The author mentions, with a touch of contempt, that "belated treatment of Theism which only loves to dilate on the oft-criticised positions of Descartes, Hume, and Kant". He proposes rather to "view the new vast increase of knowledge with its wealth of scientific result for theistic thought". He quotes a great number of recent authors, and criticises them by appeal to an assumed standard of opinion vaguely designated as "recent Theism". The quotations are

distributed, however, not in any historical or even classificatory scheme of authorities, but under a logical scheme of topics which is intended as a synthetic and constructive contribution to Theism. Such a method may suit readers who wish to gain a superficial acquaintance with the varieties of opinion prevalent on these topics, but to readers who wish to qualify themselves to give a reason for the hope that is in them, Prof. Fraser's method is far better.

Problems of Biology. By GEORGE SANDEMAN. London: Swan Sonnenschein & Co., 1896. Pp. 213.

This work is a philosophical criticism of the fundamental conceptions which underlie such dogmatic theories of heredity and development as those of Weismann, De Vries, Galton, Spencer, and others. The criticism is philosophical, but it is entirely relevant even from a biological point of view. The author finds everywhere in "dogmatic biology" the assumption implied or expressed that the various "qualities" or characteristics of organism are in their own intrinsic nature disconnected and independent. Accordingly the theorists, whatever special view they may severally take, agree in positing some hypothetical agency to explain organic unity and identity. But this agent, if it is to be used as an explanatory principle, cannot be conceived merely as abstract unity and identity. In the attempt to give it specific character, it is inevitably represented as one part among others, and not as the unity of the whole. Space does not allow of more than this very general indication of the line taken by Mr. Sandeman. His book is full of luminous and instructive treatment of detail, and ought to be read alike by the biologist and the student of philosophy.

The Education of the Central Nervous System: a Study of Foundations, especially of Sensory and Motor Training. By R. P. HALLECK, M.A., author of *Psychology and Psychic Culture.* New York: The Macmillan Company, 1896. Pp. xii., 258.

This book offers a curious discrepancy of theory and practice. The author's neurology would probably be rejected by the neurologist as too clean-cut and dogmatic; his psychology by the psychologist as incomplete and in part out of date. Yet the work contains a great deal of sound, practical advice, the outcome, apparently, of a long teaching experience. It could hardly be used as a text-book, but it has a distinct place as a sort of half-way house between the old and the new in pedagogy. A teacher, *e.g.*, who was desirous of bettering his work by a course of self-instruction, might very well begin with Mr. Halleck's book before plunging into technical psychologies or pedagogies.

The twelve chapters deal with the central nervous system; the fatalistic aspects and the possible modifications of the brain; attention, nutrition and fatigue in their relation to the nervous system; environment and training; age and training; general and special sensory training; cerebral development by the formation of images; Shakespeare's sensory training; motor training; and enjoyment in its relation to the nervous system.

Infallible Logic: a Visible and Automatic System of Reasoning. By T. D. HAWLEY, of the Chicago Bar, Lansing. Mich.: R. Smith Printing Co., 1896. Pp. xxx., 659.

Mr. Hawley's Logic is a sort of Lewis Carroll long drawn out. Not that he regards it as a game; he takes himself, and the "lawyers,

teachers, ministers, students and every one interested in the art of reasoning" who are to use his work, with full and complete seriousness. He seems to have read widely, and in his preface expresses obligation to Keynes, Venn, Jevons, Jones, Bain and Whately. All the more pathetic is the failure of his book to furnish what it professes to furnish.

His apparatus is the 'reasoning frame,' a square figure coextensive with the universe of discourse. This is divided horizontally into rows, and vertically into files. Premisses and conclusions are distributed through these subdivisions, and the wrong inferences 'visibly and automatically' eliminated by application of the rules of formal logic.

It is plain that this symbolism cannot *replace* formal logic; the use of the reasoning frame depends on the reader's knowledge of formal logic. All that the author could hope to do, that is, would be to assist the student by throwing reasoning processes into visible form; those processes themselves must still be understood. But, apart from this general criticism, the book fails of its mission in that the reasoning frame, as the writer gives it, not seldom proves fallible; its symbolism is not adequate to the thought processes which it has to represent.

Essays. By GEORGE JOHN ROMANES. Edited by C. LLOYD MORGAN. London: Longmans, Green & Co., 1897. Pp. 253.

This is a collection of ten magazine articles, extending over a period from 1879 to 1891. They are entitled "Primitive Natural History," "The Darwinian Theory of Instinct," "Man and Brute," "Mind in Men and Animals," "Origin of Human Faculty," "Mental Differences between Men and Women," "What is the Object of Life?" "Recreation," "Hypnotism," and "Hydrophobia and the Muzzling Order". They are all written pleasantly and vigorously, and serve to show the largeness and variety of Mr. Romanes' interests. Fuller attention will be given at a later date to those of their number which deal directly with psychological matters.

The Present Evolution of Man. By G. ARCHDALL REID. London: Chapman & Hall, 1896. Pp. 370.

Mr. Reid is strongly convinced of the "all-sufficiency of natural selection". He maintains against H. Spencer and others that individual acquirements are not transmitted by heredity. The most interesting point emphasised by him is the distinction between the transmission of definite variations and the transmission of a power of varying in certain modes and directions in adaptation to external conditions.

An Outline of Psychology. By EDWARD BRADFORD TITCHENER. London: Macmillan & Co. Pp. xiv., 352.

This clear, compact, and brightly written outline is admirably adapted for the needs of a beginner. There is no work in English from which the learner can so easily acquire so much sound and useful information. Full notice will appear in the July Number of MIND.

Analytic Psychology. By G. F. STOUT. London: Swan Sonnenschein & Co. 2 vols. Pp. xv., 289 and 314.

We have been compelled for want of space to hold over until July a long review of this book by Professor Royce.

Le Socialisme et la Science Sociale. Par GASTON RICHARD. Paris: Félix Alcan, 1897. Pp. 200.

Socialism presents two totally different ideas to the mind. The first of these ideas is the necessity for mitigating the violence of economic competition. The second is the necessity for abolishing capitalism. Socialists hold that the only way to mitigate competition is to destroy capitalism. M. Richard holds that the teachings of Social Science do not harmonise with this view. The destruction of capital would, according to M. Richard, condemn society to consume immediately what it produced. The result of this would be to intensify competition. In such circumstances competition would degenerate to the condition which it occupies in primitive forms of society. It would not be merely economic in character as it is at present. It would cover the whole field of existence, including liberty and life. The upward struggle of humanity has, as the Socialists truly say, consisted of a struggle against the unbridled forces of competition. But they make a mistake in supposing that the end of the struggle necessitates the abolition of private property. Competition is an indestructible element in human nature, and cannot be eliminated. The only effective method of dealing with the competitive spirit is to control and moralise it. The classical economists are powerless against socialism. They argue that human individuals ought to be free and contracts ought to be free, therefore competition ought to be free. But the Socialists have shown that there is sophistry underlying this method of reasoning. Unlimited competition tends to the enslavement of the individual and the degradation of his personality. In order that there may be true freedom of contract the contracting parties must stand as far as possible on an equal footing. In the case of women and children the contracting parties do not stand on an equal footing. Freedom of labour implies the freedom of the labourer. Unless the labourer is free it is a mockery to talk of the freedom of labour. True social and economic progress consist in compelling contracts to conform to certain ethical standards. It is here that the true function of the State comes in. It must compel the strong to respect the rights and liberties of the weak. It must attenuate the economic struggle between individuals by equalising its conditions. It must even prescribe the conditions under which the struggle will be permitted to take place. M. Richard considers that the task of Liberalism at present is to lay down and equalise the conditions under which the competitive spirit shall be permitted to operate. It must aim at placing the woman, the workman, and the child in such a position before the law that they will no longer be exploited by commercial rapacity. M. Richard's book is well worth reading.

W. D. MORRISON.

Theorie der Begabung. Psychologisch-pädagogische Untersuchung über Existenz, Klassification, Ursachen, Bildsamkeit, Wert und Erziehung menschlicher Begabungen. Von Dr. RICHARD BAERWALD. Leipzig: O. R. Reisland, 1896. London: Williams & Norgate. Pp. x., 289.

Dr. Baerwald suggests, while discussing the subject of reading, that a book written in a clear and concrete manner loses in effect, owing to the ease with which it is understood, while one which is difficult to grasp may gain its end by wearing out the reader's powers of resistance. Both statements may, to some extent, be tested by the perusal of the present work. The sections intended for the general reader are clear and

practical, and written in a style which is pleasant, and at times even colloquial; but the book, as a whole, is not very systematic; and it is not easy to see how the author's psychological views afforded him that basis for his theory for which, as he tells us, he sought in vain in the writings of professed psychologists.

Dr. Baerwald's first object was to find out how far the system of education prevailing in the German Gymnasia succeeds in developing the mental powers. He complains that in these schools the principle of formal education is exaggerated to such an extent that the educational value of the subjects taught is measured by their difficulty. With a view to preparing the way for a more rational theory of education, he undertook the task of investigating and classifying the human faculties, and, further, of referring the mental powers, or at least some of them, to particular psychical activities. Clearness of thought is "localised" in psychological synthesis, concentration of thought in apperception, "combining" imagination in association by likeness.

The intellectual faculties are divided into those which enable us to have ideas and those which enable us to develop and form the ideas which we have. This distinction is not altogether clear. We are told that in reading a badly written book the reader is obliged to fill up gaps in the chain of thought by ideas of his own; while "intuitive imagination," such as Schiller, for instance, possessed, consists in "forming" concrete ideas already given, and making them "mentally plastic". Dr. Baerwald's best instance of the former class of powers is the eloquence of intoxication, but that, as he remarks, can hardly be regarded as a *Begabung*. But the classification to which the author mainly adheres is based on the distinction between higher and lower powers. The highest are the faculty of combining (*Kombinationsgabe*) and logical acuteness; next to these are intuitive imagination and the faculty of observation. The list of inferior faculties comprises receptivity, mother-wit, rapidity of thought, "disponibility" of memory, which enables a man to have his ideas ready to hand when they are wanted, *Umsicht*, the power of taking a variety of ideas into consideration at once, and *Übersicht*, the power of taking a general survey of the ideas which are present to the mind. Lowest of all is carefulness (*Sorgfalt*), by means of which the man of inferior intelligence may sometimes succeed in concealing his deficiencies. Genius occasionally means the abnormal development of the faculties which are possessed by the average man, but more often it is one-sided and consists in the development of the higher faculties at the expense of the lower. The inability of great thinkers to see a joke is to be accepted as a necessary evil!

The author's main conclusions with regard to the question of formal education are that the education given in schools in which this principle prevails requires the exercise only of the lower faculties, and therefore affords no criterion of real ability, and, on the other hand, that the lower faculties are much more susceptible than the higher to development by education. The teaching of "formal" subjects, especially mathematics, has its uses; but it is of most importance that the pupil should acquire a knowledge of what is practically useful to him, and should learn to read for himself, and to think for himself. Dr. Baerwald especially recommends the practice of making boys write essays in their own language. He objects strongly to the teaching of Greek and Latin, and holds the unusual opinion that translation into foreign languages does not contribute to a real knowledge of them. He admits that the boys in the Gymnasia are overworked, but attributes this entirely to the choice of formal subjects, and to the "leathern method" of teaching.

These and other practical hints are the most definite results of the author's investigations. He admits that it is not always possible to ascertain what faculties are possessed by a given individual; because an action may be due to the exercise of any one of several faculties, and the lower faculties often "imitate" the higher, and produce the same results. But the thoughtful reader who tries in vain to discover what his powers are is told to console himself with the reflexion that even the author has not succeeded in making an inventory of his own.

E. F. Stevenson.

Versuch einer philosophischen Selektionstheorie. Dr. Johannes Unbehaun. Gustav Fischer.

This essay contains a "philosophical abstract theory of selection," and aims at a "purely deductive" method. It treats of the selection of everything, including inorganic objects (29, 96), works of art and writings (38, 130), species, cells, organs, tissues (103), molecules (104), parts of a state of consciousness, successive states of consciousness (113), instincts (118), firms and factories (128), languages (131), religions and philosophies (140), principles of thought and laws of research (142), and so on. The author points out that, for the possibility of a selection, we need "elements which sometimes come together into aggregates and again separate," and that these elements may be atoms and molecules, cells, organisms, persons, worlds and systems of worlds, or the separate ideas out of which a philosophical system is put together.

He goes on to distinguish different kinds of selection. There is an *outer* selection between aggregates and an *inner* selection between parts of an aggregate; each of these kinds may be either *physical* or *psychical*, and every case of selection is either *with* or *without* reference to special qualities. He finds that there are further a selection among the states of the same object and a selection among the relations between two or more objects, and develops these laws from a mathematical calculation of some complexity, in which three expressions occur. These are (1) the number of unit things concerned in a selection, (2) the time unit, and (3) the duration of each unit thing.

Dr. Unbehaun is to be praised for having produced a work on natural selection, which is not a mere collection of unverifiable anecdotes. He has an undoubted knowledge of the literature of the subject from Malthus to Roux. He has seriously set himself to follow an orderly method, and to seize what is essential to the conception of natural selection. In this work, the author has drawn many distinctions which are not familiar to the reader in this subject. And where all before was vaguely, but not the less really, statistical, Dr. Unbehaun openly develops his doctrines by means of a mathematical apparatus.

On the other hand, it must be pointed out that the "elements which now come together and again separate"—the "separate ideas out of which a philosophical system is *put together*," indeed, all such unrelated parts, or qualities, or states as doctrines of this kind must inevitably use—exist neither in nature nor for thought, and the assumption which produces them at the same time kills science. *Either* one state of consciousness is in some sense the same as that which follows it, *or* they are two separate things of which first one and then the other is selected. And the matter is not otherwise in the case of selection among animals and plants, and among their parts, their periods, and their qualities. Dr. Unbehaun's work is certainly as "abstract" and as "purely deductive" as he can have wished it to be. But these are not the marks of philosophical inquiry.

G. Sandeman.

Die Lebensanschauungen der grossen Denker. Eine Entwickelungsgeschichte des Lebensproblems der Menschheit von Plato bis zur Gegenwart. Von RUDOLF EUCKEN, Professor in Jena. Zweite umgearbeitete Auflage. London: Williams & Norgate, 1897. Pp. viii., 487.

This book is a contribution towards the "struggle for spiritual existence," which Prof. Eucken regards as one of the leading characteristics of our day. Men have become dissatisfied with the purely objective point of view taken by science, and subjectivity is once more claiming its own —at first, indeed, with a wantonness which promises little if we cannot recognise in it the necessary preliminary fermentation which is to clear the way for a great movement. By way of furthering this movement, Prof. Eucken proposes to consider the different conceptions of human life which have been held by great thinkers. In his introductory chapter he tells us that his aim has been neither to write a History of Philosophy in general nor to offer an anthology of notable passages on human life, but to so present the thoughts of great thinkers—as we find them revealed in their systems—on this subject, that, by reaching the essence of their thought on the problems most immediately bearing on human life, we may gain a clear and vivid conception of their personalities. And it is to personalities rather than to any "apotheosis of abstraction" that Prof. Eucken looks for the solution of the *Lebensproblem*. While his intention is to let these thinkers speak for themselves, rather than to supply any explanation or criticism of their doctrines, the fact that such a work necessitates choice—both as to what thinkers are to be included and in what order and connexion their ideas shall be presented—renders it impossible to entirely exclude the author's own convictions. Nor is this to be regretted. For it is justice rather than indifference which is required in the execution of such a project, and justice presupposes certain ideas and canons.

The book is divided into three parts. Part i. treats of the thinkers of antiquity, amongst whom the foremost place is given to Plato, Aristotle, and Plotinus. Part ii. is devoted to Christianity—to its foundation and to the different forms it has assumed in ancient and modern times. Part iii. deals with the Renaissance, the Enlightenment, the Age of Criticism and the search for new paths.

Prof. Eucken's last word, as it is his first, is "*das Subjekt und seine Innerlichkeit*". It is moral character alone that can judge of the depth and truth of life. Our age must evolve its own morality out of its own experience and by means of its own powers, but it can gather much from the study of spiritual struggles in the past and more especially of the great turning-points of thought which were effected, *e.g.*, by Plato, by the establishment of Christianity, by Luther and by Kant.

E. MEYER.

Geschichte des Unendlichkeitsproblems im abendländischen Denken bis Kant. Von JONAS COHN, Dr. Phil. Leipzig: Engelmann, 1896. Pp. 261.

This essay in the historical *Orientierung* of a subject of much importance in the evolution of thought is a prolegomenon to a forthcoming theoretical disquisition in the same field. It professes the double aim of analysing the development of the idea of Infinity in Western thought and of revealing the nature, interplay and conflict of the "logical and a-logical factors" in that development. The inquiry is thus concerned with the history of psychology as well as that of philosophy.

One of the more interesting sections deals with the inversion in the emotional valuation (*Gefühlswertung*) of the Infinite which attended the decay of Greek thought: the transition from an ideal of order, form, delimitation in thought, to one of something unknowable, transcendent, infinite. Jewish influence strengthened this tendency, the very word in Hebrew for eternity (*'olām*) having evolved from its probable earlier signification of 'covered,' 'hidden'. Interesting also is the course of the mutual interaction of mystical speculation and the growth of exacter mathematical concepts with respect to infinity. This attained, perhaps, its climax in the theosophy of Nicholas Cusanus. Not less worthy of note is the attitude towards the concept of infinity, as an attribute of the universe, of Galilei and his compeers whose investigations began to teach man, as Renan said, what *l'infini des choses* really implied. But what is perhaps of greatest significance in the treatise is that, in confining himself to "Occidental thought," the author has had both the conscientiousness to say so and the modesty to deprecate his own want of familiarity with "Indological studies". To this sounder perspective the work of Schopenhauer, of Prof. Deussen and of Indianists is at length bringing the Western academical mind.

C. A. F. Rhys Davids.

Die Freiheitslehre bei Kant und Schopenhauer. Von David Neumark. Hamburg and Leipzig: Voss, 1896. Pp. 89.

The subject of free will, essentially Occidental and Mediæval, might perhaps, to the benefit of philosophy, be handed over for a while to suffer many things at the hands of psychological, not to say physiological, analysis. But it would seem in Germany to survive with perennial vigour. The dissertation named above is but the first instalment of a trinity of essays. It has apparently been inspired by Schopenhauer's explanation of the reason why ancient philosophy did not make its own the problems of freedom of will and reality of the external world. The 'inner connexion' between the two, expressible in terms of the relation between subject and object, and determined by the conception of the law of causation, is the author's epistemological line of approach in comparing Schopenhauer's doctrine of liberty with that of Kant. He gives three divisions: causality and liberty, liberty as the basis of morality, 'intelligible character'.

C. A. F. Rhys Davids.

Die Formen der Familie und die Formen der Wirtschaft. Von Ernst Grosse. London: Williams & Norgate, 1896. Pp. vi., 245.

The distinctive merit of this work lies in the attempt to connect the forms of family life with economic conditions. The author distinguishes five phases of culture, using as a principle of division the varying mode of subsistence of different peoples. These are (1) the lower hunters, (2) the higher hunters, (3) the keepers of flocks and herds, (4) the lower agriculturists, (5) the higher agriculturists. The relative position of husband and wife, etc., depends on the relative importance of the economic functions of men and women. It is only among the lower agriculturists that a matriarchate is found, and even among them it is exceptional. The book is highly interesting, though it seems to treat too lightly the work of Morgan and M'Clennan.

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H. J. Holtzmann, *Lehrbuch der neutestamentlichen Theologie* (Siebente und achte Lieferung), Freiburg I. B. und Leipzig, 1896, London, Williams & Norgate, pp. 289-416.

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VIII.—PHILOSOPHICAL PERIODICALS.

Psychological Review. Vol. iii., No. 5. Studies from the Psychological Laboratory of the University of Iowa. **G. T. W. Patrick** and **J. A. Gilbert.** 'On the Effects of Loss of Sleep.' [Three subjects were kept awake for ninety hours, and tested in various ways at regular intervals.] Studies from the Psychological Laboratory of Harvard University. (I.) **J. E. Lough.** 'The Relations of Intensity to Duration of Stimulation in our Sensations of Light.' [Within certain limits the intensity of sensation is proportional to the duration of stimulus: determination of point of maximal stimulus effect: loss of sensation intensity with durations less than those producing the maximal effect: theoretical remarks.] (II.) **L. M. Solomons** and **G. Stein.** 'Normal Motor Automatism.' [Experimental proof that the hypothesis of 'double personality' is unnecessary.] **H. Griffing** and **S. I. Franz.** 'On the conditions of Fatigue in Reading.' [Size and quality of type; distance between letters and lines; quality of illumination and paper.] **S. I. Franz** and **H. E. Houston.** 'The Accuracy of Observation and of Recollection in School Children.' [Older children more accurate than younger; boys quantitatively more exact than girls; relation of confidence to accuracy uncertain.] Discussion and Reports. **H. M. Stanley.** 'Remarks on Professor Lloyd Morgan's Method in Animal Psychology.' **A. Allin** and **M. W. Calkins.** 'Recognition.' [Reply and counter-reply to Miss Calkins' review of Allin's theory.] **A. Tanner.** 'Community of Ideas of Men and Women.' [Both Miss Calkins' and Jastrow's experiments ignore the effect of habit.] Psychological Literature. New Books. Notes.

Revue Philosophique. Vingt et unième Année, No. 10. October, 1896. **V. Egger.** 'Le moi des mourants: nouveaux faits.' [Discusses the conscious state of dying persons. A man, dying naturally, meditates on his past life during his last moments. If an accident has caused the impending death, one's past flashes through one like a dream.] **H. Lachelier.** 'Sur la formule logique du raisonnement inductif.' [The only type of reasoning is the deductive. Induction is a term employed to cover the different methods by which the scientist discovers hypothetical causal laws, and verifies his deductions from them. But none of the methods constitutes a new form of reasoning.] **Lombroso (Paola).** 'L'instinct de la conservation chez les enfants.' [The law of 'least effort' governs all the manifestations of infant life. This law is of course subordinate to the law of preservation. The position is supported by illustrations from child life.] **L. Marillier.** 'Le Congrès international de psychologie de 1896.' [Summarises the papers read at the Congress.] Reviews, etc.

No. 11. November, 1896. **J. Payot.** 'Théories du monde extérieur.' [Criticises Mill's psychological idealism and Spencer's 'trans-

figured' realism. Of the conceptions implied in the belief in an external world, that of externality is acquired ; while the underivative ones are those of permanence and independence of the connexions between our sensations. A thoroughly Berkeleian essay.] **H. Joly.** 'La Genèse des grands hommes.' [A review of M. Odin's book on the subject. Education plays a larger part than heredity in the making of great men.] **Ch. Féré.** 'L'antithèse dans l'expression des émotions.' [Darwin's principle of Antithesis is important as regards the expression of simulated emotions.] **G. Belot.** 'Le Socialisme : dogme ou méthode ?' [A general review of books on the subject by Boilley, Garofalo and Prins.] Notices of Books. Foreign Periodicals, etc.

No. 12. December, 1896. **Dugas.** 'La timidité : Étude psychologique.' [Timidity is an emotion akin to, but differing from, fear. It is inhibitory of acts, thoughts and feelings. A very interesting psychological essay.] **Dr. G. Le Bon.** 'Psychologie du socialisme.' [Treats of the socialists from a psychological standpoint as exhibiting a certain type of mind.] **Foucault.** 'Mesure de la clarté de quelques représentations sensoreilles.' [Gives the results of psychophysical experiments on differences of sensibility to pressure.] Discussions. Reviews, etc.

Revue de Métaphysique et de Morale. (*a*) 4e Année, No. 5. Septembre, 1896. **G. Noel.** 'La logique de Hegel: Hegel et la pensée contemporaine (*fin.*).' [Neither pure empiricism nor Kantism is a logically tenable position. But we cannot go back to the dogmatism which Kant criticised and refuted. . . . Hegel is charged with "exclusive intellectualism": but his *intellectualism*, not his *exclusiveness*, is what gives offence ; for his opponents substitute an equally exclusive principle of their own, and one which, to us, seems utterly inadmissible. The reproach only betrays ignorance of Hegel. Generations of thinkers pass successively under the influence of successive great philosophers. The Middle Ages were right in revering Aristotle : so their successors were right in revering Descartes ; Leibniz advanced beyond the position of Descartes ; Kant, beyond that of Leibniz ; Hegel, beyond that of Kant. Each has left an indelible impress on the course of thought, but none has said the last word. Meanwhile Hegel still awaits his successor. Until some one is found to do for him what Descartes did for Aristotle, or Kant for Leibniz, Hegel blocks the way, and the study of Hegelianism is a necessity.] **Criton.** 'Quatrième dialogue philosophique entre Eudoxe et Ariste.' [A Dialogue, modelled on those of Plato or Berkeley, in which the nature of Body is discussed, and its relationship with Mind. Are Body and Mind identical, and does Body think ? Conclusion : the nature of Body is necessary, but has its *raison d'être* in the necessary laws of Thought. We must not be intimidated, in maintaining this, by the "redoubtable corporation of physiologists and physicists," whose authority within their proper sphere may be as great as one pleases, but whose philosophy is *bornée*, and without authority.] **A. Spir.** '*Nouvelles esquisses de philosophie critique* (sixième article, *suite*) : Essai sur les fondements de la religion et de la morale.' [If physical Science possessed absolute truth, if the physical order of the world were absolute, none but physical causes could act or be recognised. On the other hand, if man were a mere machine, Science itself would be impossible. As a matter of fact, a mere machine is incapable of science. Science, in truth, *is* possible, only because physical laws do not possess *absolute* validity. This position is worked out into what follows regarding Religion and Morality.] Études critiques, etc. (including a full and interesting examination of Professor Baldwin's *Mental Development in the Child and in the Race*).

(*b*) 4e Année, No. 6. Novembre, 1896. **B. Gibson.** 'La philosophie comme attitude.' [Self-determination is a fact fundamental in organic life; and the philosophic attitude may at once be denominated an attitude of Self-determination. Attitudes wherein one is determined from without are radically non-philosophical. But in all cases the environment—the external medium—also plays its part even in *self*-determination. To explain this 'singular co-operation,' it is needful first to explain the meaning of 'organism'. This being done, the question arises: Can the interaction between *me* and the environing medium in its manifold forms be *organic* in its character? The writer adopts the affirmative answer to this question. In a note he says that the discussion which follows was inspired by the course of lectures delivered in the University of Glasgow, during the winter session 1895-6, by Professor H. Jones.] **E. Le Roy** et **G. Vincent.** 'Sur l'idée de nombre.' [A development and explanation of two articles, already (September and November, 1894) published in this *Revue*, on Mathematical Method.] **E. Halévy.** 'Quelques remarques sur l'irréversibilité des phénomènes psychologiques.' [Mechanical phenomena are reversible. If the thesis of universal mechanism is true, if every physical is reducible to a mechanical problem, it follows from what has been said that the physical universe is reversible: "The planets might move retrogressively in their orbits without the violation of Newton's Law". The negative of this seems dogmatically possible, only in virtue of the seeming irreversibility of the successive order of psychological phenomena. Psychological time seems to be distinguished from Physical or Mechanical time, in that the future cannot be converted into a past, nor the past into a future. Memory and foresight are not reducible to one another: they are the inverse, the one of the other. The psychological universe is thus apparently irreversible. The object of the following paper is to investigate the reasons why psychological phenomena present this appearance, and to determine whether it is only an appearance, and whether such phenomena are really reversible; or, how far they are reversible, and how far they are not. *Logical Thought*, it concludes, involves irreversibility. The point of view of *psychological*, however, as of *all*, mechanism is incomplete, relative, and contradictory. The *physical* is, perhaps, ultimately reducible to the *logical* representation of the Universe.] Études critiques, etc.-(among them, an important review of the Philosophy of Thomas Hill Green).

Revue Néo-Scolastique. No. 12. In an article entitled 'L'objet de la science sociale,' **M. Halleux** maintains that Sociology is neither a purely idealistic nor a purely empirical science, but stands midway between the two. It is, in truth, rather idealistic than empirical. It observes social facts, indeed, but it is in the investigation into the first origin of social facts and in the determination of their moral value that the *formal* object of Sociology is found. In view of the Anti-Semitic movements of the present day, **M. Deploige** thinks it may not be without interest to inquire into the attitude of St. Thomas Aquinas towards the Jews and their religion. In his article, 'Saint Thomas et la question Juive,' M. Deploige shows that according to the teaching of St. Thomas, (1) Jews are not to be forced to accept the Christian faith: "Judaei nullo modo sunt ad fidem compellendi ut ipsi credant, quia credere voluntatis est. . . . Voluntas cogi non potest;" (2) Jewish children are not to be baptised without the consent of their parents: "Nemini facienda est injuria; fieret autem Judaeis injuria si eorum filii baptizarentur eis invitis;" (3) the Jewish religion is not to be proscribed: "Ex hoc quod Judaei ritus suos observant, in quibus

olim praefigurabatur veritas fidei quam tenemus, hoc bonum provenit quod testimonium fidei habemus ab hostibus et quasi in figura nobis repraesentatur quod credimus; et ideo in suis ritibus tolerantur". In an interesting account of Le IV^me^ Congrès d'Anthropologie Criminelle, which held its meetings at Geneva, from the 23rd to the 29th of last August, **M. Maus** points out that, whereas criminal anthropology was at first regarded as strongly favourable to materialism and determinism, it is now seen to be quite consistent with the doctrines of free-will and responsibility, and, indeed, to be the necessary complement of those doctrines. **M. Van Overbergh** continues his examination of Scientific Socialism as set forth in the 'Manifeste communiste,' and discusses its second characteristic, evolution.

Zeitschrift für Psychologie und Physiologie der Sinnesorgane. Bd. xi., Heft 5 und 6. **S. Witasek.** 'Versuche über das Vergleichen von Winkelverschiedenheiten.' [A white disc was divided by black threads, under different conditions of constancy of one or two of the three angles: the subject either judged given proportions, or himself set the threads at the right distances. Result: arithmetical rather than geometrical progression. Reason: probably, confusion of difference and differentness.] **G. Heymans.** 'Aesthetische Untersuchungen in Anschluss an die Lipps'sche Theorie des Komischen (II.).' [Those things are beautiful which, 'not transitorily or in connexion with accidental circumstances, but by their nature and associative relations, internal and external, adjust the attention to the object of perception, and so facilitate its apprehension'. Test of the theory on formal, associative and typical beauty, and the beauty of successful imitation.] **A. Meinong.** 'Ueber die Bedeutung,' etc. [V. Ueber psychische Messung und das Webersche Gesetz. 27. Theoretically, mental magnitudes, if divisible, are measurable. Intensities are indivisible: we may not speak of 'sensation increment'. Hence only surrogate measurement of them, by help of the notion of mental distances, is possible. Practically, we do not measure the mental directly, but only indirectly, by aid of physical magnitudes. 28. Weber's law, barely stated, says that equally different (proportional) stimuli belong to equally different (proportional if extensive, *quasi*-proportional if intensive) sensations (different = *verschieden*). It would seem natural to assume that stimulus and sensation are proportional. But what of the logarithmic formula? 29. In deriving his formula, 30, Fechner confused difference with differentness; and the popular acceptance of the formula has confirmed the confusion. 31. This does not mean that the fact that stimuli corresponding to equally different sensations change in the logarithmic relation is valueless. Rather does it give us (though, it is true, in surrogate form only) the function which we were looking for in 17 ff. 32. We have now rejected the 'difference hypothesis' of Weber's law. What of the 'relation hypothesis'? The law of relativity does not help us: difference itself can be brought under it. Moreover, the 'relative difference' of the hypothesis is still a difference. Yet undoubtedly the spirit evinced in its formulation is a groping for truth, and the hypothesis comes nearer our own position than the difference hypothesis (*cf.* 26). 33. So far we agree with Merkel, whom we have been criticising (20). There are three possible assumptions on the sensation side of the law: difference, differentness, noticeability. Merkel bases his relation hypothesis on a difference assumption. But a survey of the facts shows that our own differentness assumption fits them better. Noticeability is only a bolster for Merkel's theory, not needed by us. 34. Weber's law does not require any 'interpretation'. Plainly,

however, we stand nearer the psychological than the physiological or psychophysical 'interpretations'. If we must have a name, ours is the 'interpretation in terms of theory of relation'. 35. Summary. Table of Contents.] **W. Preyer.** 'Zur Geschichte der Dreifarbenlehre.' **W. Scharwin** und **A. Novizki.** 'Ueber die scheinbaren Grössenwechsel der Nachbilder im Auge.' [We localise after-images unconsciously.] **W. Heinrich.** 'Die Aufmerksamkeit und die Funktion der Sinnesorgane,' II. [Accommodation for objects in paraxial positions. Confirmation of the author's previous result,—that changes of direction of visual attention have physiological correlates in the peripheral organ.] **G. Heymans.** 'Erwiderung.' [Against Müller-Lyer.] Litteraturbericht. Namenregister. Inhaltsverzeichnis.

Bd. xii., Heft 1. **J. von Kries** und **W. Nagel.** 'Ueber den Einfluss von Lichtstärke und Adaptation auf das Sehen der Dichromaten (Grünblinden).' [Confirmation of König's results. It is not, however, that the curves of excitability are dependent upon the intensity of the stimulating light (and the adaptation of the eye); but rather that there are two distinct apparatus which function alternately, and that the stimulating value of two lights may differ for one and be the same for the other. —Description of a new form of the Helmholtz colour-mixture apparatus.] **T. Lipps.** 'Die geometrisch-optischen Täuschungen. Vorläufige Mittheilung.' ["I am just about to issue a work upon *Æsthetic Impression and Optical Illusion*. . . . It seemed in place to give here, in the form of a preliminary communication, a sketch of my theory, without detailed arguments or indication of consequences."] **F. Thomas.** 'Ein weiteres Beispiel von Assoziation durch eine Geruchsempfindung als unbewusstes Mittelglied.' **K. Marbe.** 'Neue Methode zur Herstellung homogener grauer Flächen von verschiedener Helligkeit.' [Photographic.] Litteraturbericht.

Zeitschrift für Philosophie und Philosophische Kritik. Neue Folge, Bd. cviii., Heft 2. **Arvid Grotenfelt.** 'Warum vertrauen wir den grundlegenden Hypothesen unseres Denkens? (*Schluss*).' [Though definite laws of nature *a priori* cannot be assumed, yet it is equally true that elements peculiarly intellectual enter into the thinking conception of experience, and play an important part therein. The intelligence cannot help making, respecting the 'Actual,' assumptions and presuppositions which extend beyond what is, in the proper sense of the word, 'experienced'. "Nothing can have been *given* to our Consciousness which was not formed and *trans*formed by it" (quoted from Riehl). While we dwell on the question as to the justification of these (undoubtedly real) factors of knowledge, we are led to the question on which the whole *Erkenntnisproblem* depends—the question of the Origin and Validity of the principle of Causality. The paper proceeds to discuss these 'interpolationsmaximen' (as Liebmann calls them) of the intellect. The 'maxims' in question are: 1. The principle of real Identity. 2. The principle of the Continuity of Existence. 3. The principle of Causality, or thorough-going 'legitimacy,' in the course of events (*des Geschehens*). 4. The principle of Continuity in the course of events. In the discussion which follows, the author says (*inter alia*) that, according to his firm conviction, the facts of the moral consciousness, especially those of the consciousness of responsibility, as they now exist among men of culture, and chiefly amongst those who are best educated and most highly developed, require for their justification the presupposition of *indeterminism*—undetermined freedom of choice; since, if this be not granted, much that is cherished in morality must be treated as illusory. Even theoretic philosophy, therefore, may

ask: which is more likely—that these moral facts should be mere illusions, or that a limit exists to the principle of Causality ?—an interesting paper, which concludes with a plea for a qualified recognition of Empiricism in *Erkenntnistheorie.*] **Eduard von Hartmann.** 'Die letzten Fragen der Erkenntnistheorie und Metaphysik (*Schluss*).' [(*a*) The metaphysical foundations of Causality; (*b*) Unity and Plurality. Under these two headings von Hartmann discusses the second, or metaphysical, portion of his subject. The essay is, to a considerable extent, occupied with a polemic against König, who has criticised von Hartmann' stheory of Causality, and found it to harmonise in important points with that of Lotze.] **J. Freudenthal.** 'Spinozastudien.' [The writer discusses the "Short Tractate," of which he concludes that it shows in form and content more numerous and grosser errors than any other of Spinoza's writings. It is, however, a genuine work of his. The youth of its author was not the cause of its defectiveness: for he was twenty-six years old when he wrote it; but it was written, not for publication, but for a narrow circle of friends. In its imperfect state, it came into the hands of a "redactor," who treated it badly, being an admirer of Spinoza, but unable to understand him.] Recensionen, etc.

Philosophische Studien. Bd. xii., Heft 4. **G. W. Störring.** 'Zur Lehre vom Einfluss der Gefühle auf die Vorstellungen und ihren Verlauf.' [The influence of feelings upon ideas, in the normal and abnormal mind, when they are playing a part in the process of attention, and the ideas also are under the influence of attention. Experiments with voluntary movement: new apparatus. Constant error positive for pleasantness with flexion and unpleasantness with extension; negative for the latter with flexion. Critique of G. E. Müller and Münsterberg.—The influence of feelings upon the associative and reproductive processes of the normal and abnormal mind. They reproduce not directly, but by way of organic sensations. A strong affective tone which favours reproduction is more effective if connected with the reproducing idea.] **G. M. Stratton.** 'Ueber die Wahrnehmung von Druckänderungen bei verschiedenen Geschwindigkeiten.' [On the magnitude of the just noticeable change of pressure, with instantaneous and gradual alteration of stimulus. New apparatus. With the first method, Weber's law holds between the limits 75 and 200 gr. With the second, the change limen increases with decrease of the rapidity of stimulus alteration. If this is relatively constant, Weber's law holds. Interpretation: there are no 'change sensations'.] **H. Eber.** 'Zur Kritik der Kinderpsychologie, mit Rücksicht auf neuere Arbeiten.' [The method of child psychology is genetic, descriptive and physiological. Critique of Baldwin and Preyer: both represent a faculty psychology, Preyer undisguisedly, Baldwin in a form obscured by biological formulation. Current treatment of the questions of conscious elements and the processes of conscious connexion.]

Vierteljahrsschrift für Wissenschaftliche Philosophie. Jahrg. xx., Heft 4. **F. Carstanjen.** 'Nachruf an Richard Avenarius.' [An interesting sketch of life and philosophic method.] 'Berichtigungen zur "Kritik der reinen Erfahrung".' **S. Kableschkoff.** 'Die Erfahrbarkeit der Begriffe geprüft an dem Begriffe der Erziehung.' [What a person characterises as 'experienced' is merely what he himself recognises at the moment as his own experience. What this is will depend on his own pre-existing circle of ideas. This view is put forward as an outcome of 'Empirio-kritizismus'. But it looks like a knife which will cut two ways.] (Other titles in last number of Mind.)

Jahrg. xxi., Heft 1. **R. Wahle.** 'Die Ethik Wundt's.' [The historical treatment of the evolution of ethical principles, however valuable in itself, does not essentially contribute to the solution of ethical problems. Wundt makes his own Ethics independently of such empirical data, though he is not aware that he is doing so.] **O. Krebs.** 'Der Wissenchaftsbegriff bei Hermann Lotze.' [Discusses (1) the content, and (2) the form of science; (3) its metaphysical, teleological and logical presuppositions, as conceived by Lotze. The writer tries to show that Lotze's doctrines are fundamentally incoherent.] **R. Willy.** 'Die Krisis in der Psychologie.' [Psychology is in a bad way if it does not give up Metaphysics and take to 'Empirio-kritizismus' instead. Wundt is an awful example.] 'Was lehrt der iii. Internationale Psychologen-Kongress in München?' [We gather that it was very unedifying.]

Archiv für Sytematische Philosophie. Bd. iii., Heft 1. **O. Schneider.** 'A. Stadler's Klassifikation der Wissenchaften.' [Criticises both in principle and detail.] **J. Baumann.** 'Wundt's Grundriss der Psychologie.' [Criticises the metaphysical side of Wundt's Psychology—his monism and the fundamental importance he assigns to conation.] **B. Erdmann.** 'Sprechen und Denken.' (II.) [Discusses the varieties and preparatory stages of written language.] **Paul Natorp.** 'Grundlinien einer Theorie der Willensbildung.' (IV.) [An important article. The functions of the Family, the School, and the Common Life of Adults in educating the will.] (Other titles in last number of Mind.)

Rivista Italiana di Filosofia. July-August. **G. Zuccante.** 'L'aspetto biologico della Condotta secondo lo Spencer.' [This article aims at showing the importance of Evolution to the biological basis of conduct. Biologically, pleasures are the "correlatives" of acts beneficial to the organism, pains the correlatives of acts hurtful to it. But as Spencer himself admits, this rule is not always true in experience, and the exceptions are explained by the "optimism of Evolution". This leads to a comparison of Spencer's complete life, as the final result of Evolution, with Kant's treatment of the "Summum Bonum".] **A. Nagy.** 'Fatti normali e fatti morbosi in psicologia.' [Discusses the relation of normal or physiological states to morbid or pathological. Four theories are criticised: (*a*) Physiological states are pleasant, Pathological painful; (*b*) the Physiological tend to perfection of the organism, the Pathological do not; (*c*) the former tend to preservation of the individual, the latter do not; (*d*) the former tend to advantage of both the individual and species, the latter do not. The result of the criticism is that everything tending to maintain the *status quo* is pleasant, and the state is Physiological; while, on the contrary, changes are painful, and the state is Pathological. From the relativity of the feelings a relativity of the states may be inferred, and hence the distinction is one of degree, not of kind, and the two may be differentiated according to the preponderance of static (Physiological) or disturbing elements (Pathological).] **N. R. D'Alfonso.** 'L'educazione organica.' [The teacher should be acquainted with hygiene, the psychic side of man, biology, chemistry, and physical education.] 'Il Neo-criticismo a proposito di una ristampa' [di un libro di C. Cantoni]. **A. Chiappelli.** 'Relazione sul concorso per le scienze filosofiche.' Bibliografia: **E. Morselli.** '*L'évolution sociale*, par Beneamin Kidd.' Bollettino, etc.

IX.—NOTES.

A NOTE ON HYPNAGOGIC PARAMNESIA.

The phenomenon which I am about to record is a simple one, and may be familiar to many. My own experience of it has, however, suggested various points concerning the connexion between sleeping consciousness and abnormal waking consciousness—dreams and paramnesia or "false memory"—which have seemed to me new. That is my excuse for this Note.

I.

About the middle of the night I had a very vivid dream, in which I imagined that two friends—a gentleman and his daughter—with a certain Lord Chesterfield (I had lately been reading the Letters of the famous Lord Chesterfield) were together at an hotel, that they were playing with weapons, that the lady accidentally killed or wounded Lord Chesterfield, and that she then changed clothes with him with the object of escaping, and avoiding discovery which would somehow be dangerous. I was informed of the matter, however, and was much concerned. I awoke, and my first thought was that I had just had a curious dream which I must not forget in the morning. But then I seemed to remember that it was a real and familiar event. This second thought lulled my mental activity, and I went to sleep again. In the morning I was able to recall the main points in my dream, and my thoughts on awaking from it.

Since then I have given attention to the point, and I have found on recalling my half-waking consciousness after dreams that, while it is doubtless rare to catch the assertion, "That really occurred," it is less rare to catch the vague assertion, "That is the kind of thing that does occur". I find that this latter impression appears like the former after vivid dreams which contain no physical impossibility but which the full waking consciousness refuses to recognise as among the things that are probable.

This phenomenon has long been known, though I am not aware that it has attracted much attention. Brierre de Boismont pointed out that certain vivid dreams are not recognised as dreams, but are taken for reality even after waking. Moll compares such dreams, thus continued into waking life, to continuative post-hypnotic suggestions. In a recent "Study of the Dream Consciousness," by Sarah Weed and Florence Hallam (*American Journal of Psychology*, April, 1896), one of the subjects found that probable dreams are sometimes "mistaken during a short time for the actual". In insanity, as many alienists have shown, this mistake is sometimes permanent, and the dream becomes an integral and persistent part of waking life.

Such dreams usually present a possible, though, it may be, highly improbable event. The half-waking or hypnagogic intelligence seems to be deceived by this element of life-like possibility.[1] Consequently a fallacy of perception takes place strictly comparable to the fallacious perception which in the case of an external sensation we call an illusion. In the ordinary illusion an externally excited sensation of one kind is mistaken for an externally excited sensation of another kind. In this case a centrally excited sensation of one order (dream image) is mistaken for a centrally excited sensation of another order (memory). The phenomenon is, therefore, a mental illusion belonging to the group of false memories, and it may be termed hypnagogic paramnesia.[2]

The process seems to have a certain interest, and it may throw light on some rather obscure phenomena. It sometimes happens that we are able to recall a vivid dream, usually, I believe, a fairly probable dream, with no idea as to when it was dreamed. And it sometimes happens that we find ourselves in possession of experiences of which we cannot certainly say that they happened in waking life or in dream life. In such cases it seems probable that this hypnagogic paramnesia has come into action; the half-waking consciousness dismisses the vivid and life-like dream as an old and familiar experience, shunting it off into temporary forgetfulness, unless some accident again brings it into consciousness with, as it were, a fragment of that wrong label still sticking to it. Such a paramnesic process may thus also help to account for the mighty part which, as so many thinkers from Aristotle and Augustine downwards have seen, dreams have played in moulding human action and human belief. It is a means whereby waking life and dream life are brought to an apparently common level.

II.

But another point is suggested by this phenomenon of the half-awake consciousness. If it may be regarded as a variety of paramnesia, may it not serve to throw some light on that much-discussed phenomenon which has led to so many strange and complicated theories?[3] I think it may.

[1] Dr. Marie de Manacéine, who has lately studied the phenomena of the hypnagogic state experimentally in much detail, finds that it is characterised by abnormal suggestibility, and she considers it almost identical with the hypnotic state.

[2] By hypnagogic paramnesia I mean a false memory occurring in the antechamber of sleep, but not necessarily before sleep. Mr. Myers' invention of the word "hypnopompic" seems to me unnecessary except for pedantic reasons. I take the condition of consciousness to be almost the same whether the sleep is coming on or passing away. In the dream I have recorded it is even impossible to say whether the phenomenon is "hypnagogic" or "hypnopompic"; in such a case the twilight consciousness is as much conditioned by the sleep that is passing away as by the sleep that is coming on.

[3] It is needless to enumerate these, but I may refer to the simplest, *viz.*, that the false memory is an unrecognised true memory. This is the explanation chiefly relied on by Jessen, Sander, Emminghaus, Sully, and Burnham. Undoubtedly it will explain a considerable proportion of cases but not the really typical cases in which the subject has an overwhelming conviction that even the minute details of the present

The hypnagogic state is a transition between waking and sleeping. It is thus a condition of mental feebleness and suggestibility doubtless correlated with a condition of irregular brain anæmia. A plausible suggestion under such conditions is too readily accepted. Does ordinary paramnesia occur under similar conditions of mental feebleness and suggestibility? It is rare to find descriptions of paramnesic experiences by scientific observers who are alive to the importance of accurately recording all the conditions, but there is some reason to think that paramnesia does occur in states produced by exhaustion and allied causes. It seems to be fairly frequent in languid and anæmic persons,[1] in the suggestible, in those given to day-dreaming. Bonatelli, it may be added, has found a special connexion between paramnesia and conditions of nervous irritability, and Anjel between paramnesia and fatigue.[2] As Dugas has pointed out, it is also well known to writers and others who, while possessing unusual mental capacity, strain that capacity to the utmost. The earliest case of paramnesia recorded in detail by a trained observer is that described by Wigan as occurring to himself at the funeral of the Princess Charlotte. He had passed several disturbed nights previous to the ceremony, with almost complete deprivation of rest on the night immediately preceding; he was suffering from grief as well as from exhaustion from want of food; he had been standing for four hours, and would have fainted on taking his place by the coffin if it had not been for the excitement of the occasion. When the music ceased the coffin slowly sank in absolute silence, broken by an outburst of grief from the bereaved husband. "In an instant," Wigan proceeds, "I felt not merely an *impression*, but a *conviction*, that I had seen the whole scene before on some former occasion." Such a condition on the verge of syncope, it is evident, closely resembles the hypnagogic state. The frequency of paramnesia in the prodromal

experience have been experienced before. I frequently read a new poem with a vague sense of familiarity, but such an experience never puts on a really paramnesic character, and I quickly realise that it is explainable by the fact that the writer of the poem has fallen under the influence of Heine, or Tennyson, or Rosetti, as the case may be. One may have similar experiences with regard to new psychological theories. The only experience I can personally speak of as approaching true paramnesia occurred on visiting the ruins of Pevensey Castle some ten years ago. On going up the slope towards the ivy-covered ruins, bathed in bright sunlight, I experienced a strange and abiding sense of familiarity with the scene. Three theories might account for this experience: (1) that it was a case of true paramnesia; (2) that I had been taken to the spot as a child; (3) that the view was included among a series of coloured stereoscopic pictures with which I was familiar as a child, and which certainly contained similar scenes. I incline to this last explanation. Here as elsewhere there are no keys which will unlock all doors.

[1] In this connexion it is interesting to note that Dr. Marie de Manacéine, in her very extended series of observations, has found that anæmia, and especially chlorosis, constitute a powerful factor in producing predisposition to the phenomena of the hypnagogic state.

[2] Burnham, "Paramnesia," *Am. Jour. Psychology*, May, 1889. I should add that Anjel's view of paramnesia, as very briefly outlined by Burnham, seems to have some relation to that which has independently commended itself to me.

stage of an epileptic fit, or as a substitute for it, is well recognised, and Hughlings Jackson has regarded it as a ground to suspect the presence of epilepsy. Not only is this phenomenon found in all these conditions of imperfect waking consciousness; it is also found in the full dream consciousness of sleep. Thus Kraepelin tells how he dreamed of smoking his fourth or fifth cigar, although he had never smoked in his life, and we are all probably familiar with dreams in which we perform extraordinary actions which seem habitual to us.

Thus in all these conditions we appear to be in the presence of an enfeebled and impaired state of consciousness approximating to the true confusion of dream consciousness. It seems as if externally excited sensations in such cases are received by the exhausted cerebral centres in so blurred a form that an illusion takes place and they are mistaken for internally excited sensations, for memories.

It has been argued by some who admit that there is often an element of fatigue in paramnesia (for instance by Allin, "Recognition," *American Journal of Psychology*, Jan., 1896) that the real cause of the false memory is an abnormal celerity of perception, perhaps due to hyperæsthesia. The scene would thus be perceived so quickly that the subject concludes that he must have had this experience before. That the subject often has a feeling of unusual rapidity of perception may very well be admitted. But there is no reason whatever to suppose that the perception actually is received with any such unusual rapidity. The probabilities are in the other direction. We know that many influences (such as drugs like alcohol) which produce a feeling of heightened and quickened perceptions really have a slowing and dulling effect. In the same way the wise and beautiful things we utter in dreams on awaking are usually found to be commonplace, if not meaningless. There is no evidence to show that paramnesia is accompanied by a real heightening of perception, while, as we have seen, a broad survey of the facts makes it more reasonable to suppose that we have, on the contrary, a sudden fall towards the dream state. In this connexion it is well to bear in mind that, as Tissié has pointed out, there are probably many stages in the dream state.

The effects of hypnotic suggestion may help to explain paramnesia. Although hypnosis and sleep are not usually considered to be precisely identical conditions, they are, without doubt, closely allied. In sleep, as in hypnosis, we accept a suggestion, with or without a struggle. In the paramnesic state we seem to find, in a slighter stage of a like condition, *the same process in a reversed form*. Instead of accepting a representation as an actual present fact, we accept the actual present fact as merely a representation. The sensory centres are in such a state of exhaustion and disorder that they receive an actual external sensation in the feebler shape of a representation. The actual fact becomes merely a suggestion of far distant things. It reaches consciousness in the enfeebled shape of an old memory—

". . . like to something I remember
A great while since, a long, long time ago".

Paramnesia is thus an internal hallucination, a reversed hallucination, it is true, but while so reversed, the stream of consciousness is still following the line of least resistance.

Such at all events is the explanation I should offer, and it is certainly simpler than the complicated, ingenious theories which have been invented to explain the phenomena of paramnesia, phenomena which are of no little interest since in earlier stages of culture they must have had a real influence on belief, suggesting to primitive man that he somehow had had wider experiences than he knew of, and that, as Wordsworth put it, he trailed clouds of glory behind him.

III.

In this brief Note I have tried to indicate the possibility that :—

(1) The hypnagogic state with its heightened liability to auto-suggestion is really allied to the paramnesic state ; (2) enfeeblement of perception, due to the presence of a state of general psychic enfeeblement, whether in individuals of high or low intelligence, is the chief and possibly essential character of paramnesia, although there may be a subjective sensation of increased power ; (3) this enfeeblement may alone account for the paramnesia by bringing an externally aroused perception down to a lower and fainter stage in which it is on a level with an internally aroused perception—a memory. Just as in hypnagogic paramnesia the vivid and life-like dream or internal impression is raised to the class of memories and becomes the shadow of a real experience, so in waking paramnesia the external impression is lowered to the same class. Perception is alike dulled in each case, and the immediate experience follows the line of least resistance—this time too carelessly or too prematurely—to join the great bulk of our experiences.

HAVELOCK ELLIS.

THE LATE PROFESSOR WALLACE.

Prof. Wallace was a striking figure and an individual force in the English philosophical revival. His position in the movement was unique, and his influence therefore invaluable. A philosopher with his whole heart and mind, an original thinker, trained to accurate scholarship and possessed of immense learning, he has not associated his name with any independent treatise on a philosophical subject. It is possible that, had his life continued to its natural term, we might have been made the richer by some direct creation of his mind, free from "the interposition of historical form and material, which cuts off a great majority of the world from any direct access to truth".[1] Many reasons for his attitude might be suggested. He felt the influence, we may perhaps conjecture, and partly shared the critical reserve, of his predecessor, T. H. Green, and of the late Master of Balliol, to whom his most considerable work was dedicated. They worked, the former largely, the latter almost wholly, through criticism and commentary, and he followed their example, though in far other fields. His temperament, too, urged him in this direction. He loved great individualities ; he was happiest and most expansive when challenging the sympathy of an audience for some great man, decried or misunderstood. Epicurus and Schopenhauer in his delightful writings, Epicurus, Rousseau, Wordsworth, even Nietsche, in his still more delightful popular lectures, were presented so that the reader or hearer was abashed at the meanness and triviality of his former conceptions of them. The lecture on Epicurus was reported *verbatim* and survives ; the others, so far as I know, are a lost music.

His profession contributed to determine the character of his published work. He became in 1882 Whyte's Professor of Moral Philosophy in the University of Oxford, and the duties of his Chair, added to the labour of a College tutorship, were sufficient to make systematic original production all but impossible ; impossible, that is, for any one whose professorial lectures were, like his, the immediate deliverance of a full heart and mind, spoken, as a rule, without a single note.

His main achievement, then, as matters actually stand, and without

[1] Wallace, *Life of Schopenhauer*, p. 21.

drawing into account the MSS. which may remain, was the translation and interpretation of Hegel's *Logic* and *Philosophy of Mind*, and it may be that even if possessed of full leisure, he would still have chosen this task. No one else could have done it as he has done it; and its accomplishment was essential to making the roots and reasons of modern idealism a secure possession of the English mind. His interest in Hegel was for his whole life what his interest in Rousseau or Epicurus was for his mere passing moods. It was a supreme example of his great passion; to understand, to enter into a leading intelligence, and to make its most withdrawn and difficult ideas in their bearing on human life, the common property of at least the student world. Readers frequently complain that they can get nothing definite out of the Prolegomena to Hegel's *Logic*. The same difficulty is hardly present in the same measure when we turn to the chapters which introduce the *Philosophy of Mind;* but the complaint means at bottom that the author demands of his readers something of the same effort which he makes himself. He has not indeed any trace of the obscurity and heaviness of style which the professional philosopher so seldom escapes. But he approaches his subject by going all round it and surveying it; he tells you, apparently, of the environment in which a problem arose, of the moral or political need which gave it birth, of its antecedents, of the familiar intellectual processes and beliefs which it concerns, of the fallacies which illustrate it. And no doubt all this may seem circuitous, perhaps irrelevant. But those who care, and persevere, and let their minds play upon the subject, will find that the details have a life in them, and that, as has been said of one of his public lectures, after hearing about all sorts of seemingly unconnected things, you become at last aware that you *see* a thought which has all the time been growing up before you. And the positive knowledge which displays itself throughout these volumes was almost a new feature in the Idealist movement, and surely a necessary one. Study of Kant, indeed, has not been wanting; but, not to speak of Hegel himself, how little English writers know of Schelling, Fichte, and Herbart; how little they grasp in its entirety the movement which for good or evil they have to deal with. We are only now approaching a real knowledge and judgment of the great idealist period; and that we are likely to possess anything of the kind must be set down mainly to the work done by Wallace.

Of his definite views those which concern Psychology are perhaps at this moment of greatest interest. Psychology, he seems to say, may be carried on as a natural science, or as a branch of philosophy.[1] From the relation, which its problem implies, to man as such, the normal or typical man, it follows that ultimately a philosophical bearing cannot be denied to it. And even if we take it as a natural science, he still is of opinion, as I read him, that experimental psychology is largely at the mercy of criticism in respect to the absence of clear method and purpose in its experimentation. In this view he associates himself with Münsterberg, but probably attaches a significance to it which goes beyond Münsterberg's meaning.

And I have mentioned this matter, partly because it indicates the ultimate interest of Prof. Wallace's life. As Herbart says of Psychology, so Wallace could say of all Philosophy, that Man at his best is the real object matter. That was what he cared about;, and he went through the toil of logic and philosophical history because he believed, as he has indicated more than once, that these laborious pilgrimages are necessary stages in the ascent of man to lay hold upon his true self and his true religion.

B. Bosanquet.

[1] Hegel's *Philosophy of Mind*, p. lvii.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—TYPES OF WILL.[1]

By Alexander F. Shand.

I.—Simple Volition.

There are tendencies in us of which we do not foresee the consequences, there are others of which we do. There are conations that are blind, and also foreseeing conations. Our instinctive impulses, at first unconscious of their end, as we grow up attach to themselves ideas and foresight. Yet they at times surprise us by their suddenness and unfamiliar character. They impel us to actions that we on reflexion disown because we do not recognise ourselves in them.[2] For we did not foresee their tendencies, therefore we could not subordinate them to any conscious end. We had neither the opportunity of accepting or of rejecting them. Hence we disown them as not part of our conscious self, as independent of the ends which it sets before itself. But do we disown them because they are relatively unorganised? Our primitive impulses are at least organised in this sense: they are subordinated to the end of preserving the life of the species and the individual. None the less we disown any impulse that is not also organised in one of the systems of thought which are our conscious interests and sentiments. If it has sprung up independently of them, and thwarts

[1] Read before the Aristotelian Society.

[2] See Fouillée's *Tempérament et Caractère*, p. xiv.

their volitions, we say that it thwarts *us*, and we call its action involuntary. And, irrespective of its degree of organisation, we will not be held responsible for it, except and so far as it rises into consciousness and comes within the control of our voluntary self.

As far as consciousness is concerned the lowest level of the conative development is the blind conation that carries no idea of the end to which it is directed; and we are generally agreed not to call this type volition. All other conations carry an idea of their end or object. Desire and aversion are such conations, but mere desire or aversion is not called will. Yet we are not consistent in this point of view. An unopposed desire is often impulsively realised, and we call that impulsive will... If we are angry with some one, ideas of hurting or paining him occur, and we sometimes find the pain or injury has been inflicted without any prior consciousness on our part that we were going to inflict it. If we are reproached for the action, we say we did not "mean" to do it. For the idea absorbing attention, and strengthened by the emotional impulse, has straightway realised itself without, as far as we can detect, requiring any other subjective condition for its accomplishment. Are we to call this type volition? According to the general opinion of psychologists, we should have to include it. An action that results from desire we call voluntary; for it is preceded and partly determined by a conscious idea, by desire and attention. We can hardly call it non-voluntary, because of the presence of these constituents; and involuntary or against will it certainly is not. Yet if the action be voluntary, the state which precedes it is volition. But this state is mere desire with attention, and, did it not determine action, we certainly should not call it will. Does, then, desire only become volition so far as the idea of its end becomes realised in whole or part, and is that sequence what we mean by volition? Prof. Ribot maintains that we reduce volition to an abstraction if we exclude its motor effects and accompaniments, that as an internal state it cannot be distinguished from a logical operation of the intellect.[1] And, in Mr. Bradley's opinion, the idea producing its existence is volition.[2] Yet this view, according to Mr. Stout, is a mistake. "The question," he remarks, "as to the nature of a certain mode of consciousness is quite independent of the question whether or not this mode of conscious-

[1] *Les maladies de la volonté*, p. 29.

[2] MIND, vol. xiii., p. 25.

ness will be followed by a certain train of occurrences in the organism and in the environment."[1] And it will be difficult for any one who has reflected on the type of abortive volition in involuntary actions to any longer maintain that the realisation of the idea is essential to volition.[2] As, then, mere desire with attention is not will, nor becomes will in the realisation of its end, it follows that impulses realised without attention certainly are not. Cases of this kind occur in all habitual actions. Their conation is not altogether blind, but the vague idea of an action arises outside the area of attention, and is apparently realised without coming within that area. As Prof. Sully remarks: "It is only when I have to do something new and unfamiliar that I need to realise with the maximum distinctness, by a special concentration of attention, the idea of the object or end and the idea of the required action".[3]

There are, then, three types that progressively approximate to will without quite revealing its specific character: (1) Conations that are blind; (2) Conations that vaguely foresee and accomplish their ends; (3) Conations that clearly foresee, or, through attention, accomplish their ends.

We come next to the more deliberate and developed types where, between desire and its satisfaction, the judgment intervenes that we are going to satisfy it. This judgment must be carefully distinguished from the idea of the action on which it is based. The judgment is a further development of it. We have the idea of an action before we decide; we may doubt, we may question, we may judge that we perhaps will realise it before the definite judgment occurs that we are going to realise it. Here for the first time we seem to come within the radius of will; for, if the action or end be not realised, we still should not hesitate to call that desire a volition which we had admitted to ourselves we were going to satisfy. Accordingly we find this definition given by Mr. Stout: "Volition is a desire qualified and defined by the judgment that, so far as in us lies, we shall bring about the attainment of the desired end".[4] Now this judgment has not time to develop in ordinary impulsive action. It is where desire cannot at once find an outlet for its impulse that the pause occurs

[1] "Voluntary Action," MIND, N.S., vol. v., p. 355.

[2] See "Attention and Will," *ibid.*, vol. iv., pp. 461, 463.

[3] *The Human Mind*, vol. ii., p. 225.

[4] *Op. cit.*, p. 356.

before action in which the reflective judgment, I shall do this thing, finds its opportunity. If we are indignant at an insult and cannot at once avenge ourselves, if we pity some one's distress and cannot immediately relieve it, we are then so often aware in the persistence of our feeling that we are going to relieve this distress or going to avenge ourselves.

And this judgment may occur in a mental state that amounts to only a simple volition. It may be preceded by no doubt and conflict of motives. The obstruction in the way of desire may be due to outward circumstances and not to an opposite desire. For my pity or my anger may possess me for the time being, so that other desires are excluded. In this case there is no choice, no selection of one end and rejection of an opposite end. Simple volition may then be defined as that mental state in which a single desire culminates in the judgment of attentive thought that we are going to realise its end. And complex volition in distinction from it will be preceded by doubt and a conflict of motives, and the decisive judgment in which it culminates will select the end of one of the conflicting motives. In both the judgment appears as the distinguishing character of will, as that which distinguishes the prior state of desire from volition; and the character of the judgment in both is positive and categorical.

II.—Will as Negation.

We often experience that mental state in which the idea of some action arises, and the responsive attitude of the self is at once defined in the judgment: "No, I shall not do that". In healthy minds, where virtue is a habit, such a negative volition is the normal attitude when they feel tempted by some vicious propensity. In pathological cases of fixed ideas where we are struggling not to realise the action which an idea represents, or not to attend to the idea itself, we may also have no positive and complementary end in view; our volition may be confined to the idea of not doing or not attending. How are we to interpret this negative character if volition always contains the positive idea of doing something developed into the positive judgment that we are going to do it? Is negation a positive judgment in disguise? That we are not going to realise an idea where we are conscious that it has a strong tendency to pass into action, means that we are going to restrain it, and that is surely something positive. Seeing that the absorption of attention by the idea

indirectly aids its realisation, we may will not to attend to it. And not to attend to it means that we shall attend elsewhere, to objects among which it is not found, from which it is absent. But can we give any positive interpretation of absence? If you are trying to restrain a reflex tendency, as the impulse to yawn or cough, the object of your volition is that the yawn or cough shall not become fact. Being an idea, it shall at most remain an idea, and shall be absent from the circle of what we call fact. But 'absence' means that it is *not* within the circle. What then is there positive about your volition? Are you willing to maintain the *status quo*, to permit the idea of the event, but not the event itself? Even in this case the negative element reappears as complement of the positive; for you cannot think of maintaining the *status quo* without thinking that certain changes which would destroy it shall not take place. Thus we cannot resolve negative volition into positive, even where we can show that the one logically implies the other. The positive is only a complement of it, and is incapable of supplying its place. Negative thought is unique, and this fact accounts for that type of volition in which the uniqueness of negative thought is employed in the characterisation of the end.

This uniqueness of negative thought penetrates also conations which are not will. What we call aversion seems to be a combination of desire and negative thought. If I have aversion for anything, I desire to escape from it; not to be near it, not to see it. If I have aversion for an end, I desire not to accomplish it. There are then negative desires as well as negative volitions.

In the treatment of negative thought, which has been so closely associated with logic, we must guard against confusing the distinct characters of logical and psychological analysis. In logic, negative thought necessarily involves a positive and positive thought a negative. If we have asserted that a man is honest, we are logically bound to deny that he forges other people's signatures or cheats at cards. The validity of the positive assertions involves the validity of the negative assertions, and conversely every negative involves some positive assertion. Logical analysis endeavours to discover what a content of thought involves or presupposes. It does not regard this content as an existing psychical fact, nor the judgments it presupposes as existing co-presented psychical facts. Psychology, on the other hand, deals with thought only as a psychical fact occurring in an individual mind, and having that specific character which justifies our designating

it by the general term, thought. And psychological analysis endeavours to discover what this fact actually contains, as negative or positive thought, in its particular context; not what it logically involves. Hence the two sciences from their different standpoints, from the different character of their analyses, will reach different conclusions, which rightly understood are in no way inconsistent with one another. We can illustrate the different character of the analyses and the different conclusions to which they lead in the present instance. In the psychological analysis of negative volition, we have to consider whether the negative actually present in its psychosis is co-presented with a positive thought which is its logical complement. In resolving not to attend to one object I must logically judge that I shall attend to another, or relapse into that sentient state in which all selective attention seems to be extinguished. In resolving not to do *this* I must logically judge that I shall do *that*, or at least maintain the present state: for the negative involves the positive. But in the resolution not to accomplish one end, there is not always as a psychical fact the positive resolution to accomplish some other end in place of it. In the negative volition, "No, I shall not do that," the idea of doing something else or maintaining the present state may not occur: the volition may be confined to the idea of not doing or not attending. But without the occurrence of the idea a supplemental positive volition is impossible. So also a positive volition may resolve to accomplish what it anticipates in idea without rejecting other alternatives which are inconsistent with its purpose, without even the idea of them occurring. Still, in the negative volition, "I shall not do that," we must in the sequel do something else or maintain our present state, although we may have had no prevision of this positive result. But its occurrence is obviously conditioned by the fact of the negative volition. In escaping from one object, we, as a matter of fact, pursue after another, and the direction we take is conditioned by the direction we avoid. In resisting temptation, we attend to objects from which it is excluded, and the negative volition conditions the positive movement of attention. In fact as "negative conditions positive apperception,"[1] so negative volition conditions and has as its psychical complement some positive conation. We may then lay down this general theory. All negative volition is as a psychical fact accompanied by some positive conation: all positive volition by

[1] *Analytic Psychology*, G. F. Stout, vol. ii., p. 144

some negative and inhibitory conation. But this conation has often no foresight of its end, still less does it develop into volition. In pure negative volition, the positive conation is blind. In pure positive volition, the negative conation is blind. In the mixed type, both the positive and negative conations supplementing one another have developed the volitional character.

The logical doctrine that all negative involves positive thought cannot then be interpreted in psychology to mean that all negative thought is actually accompanied by a positive, nor consequently that all negative volition is actually accompanied by positive. And were this not the fact, all simple volition would be resolved into complex volition or choice. Before every voluntary action we should have the idea of some alternative action, and volition would be the choice which, accepting the one alternative, consciously rejected the other. That our deliberate and purposive actions correspond to this type is perhaps obvious; and we might define choice as the mixed type of positive and negative volition. That our more sudden and habitual actions—not so sudden nor so habitual but that we, in some measure, anticipate them in idea and foresee their accomplishment—that these also correspond to this type is a supposition which an impartial study of the facts does not favour. From blind conation to deliberate purpose there is an unbroken chain of development and complication. At the first stage we have actions vaguely foreseen, at the next, attended to, then developed into the assurance or judgment that *we* are going to accomplish them, at which stage, in agreement with the common usage of the word, we have named them simple volitions, lastly still further complicated by the representation of alternative actions. Shall we say that as soon as the third stage is reached and the knowledge of what we are going to do arises, the knowledge of what our intended action also excludes must arise with it? We had better surely take in the first place, as a more reasonable hypothesis, the theory which represents the conative development as steady and uniform, and not heap upon any one stage of it the growth and complications which are more likely to have been arrived at in the course of several.

We must then modify our preliminary definition of will if we are to interpret the present type. It is not the positive judgment, "I am going to do *this*," which is the distinguishing character of volitional conations. In pure or unmixed negative volition, we have no idea of any end that we are going to accomplish, we have only an idea of a result

or end that we are not going to accomplish. The distinguishing character of will is either a judgment that we are going, or not going, to accomplish an end, or some mixture of both judgments. What is common to all we have not discerned, unless it be that their character is categorical.

III.—Hypothetical and Disjunctive Will.

Those constituents of our thought-attitude to objects that we name the categorical, problematic, disjunctive, and hypothetical, are not tied to judgments. The logical text-books regard them as forms of judgment, and recognise no significance in the fact that they penetrate also other attitudes of thought. Indeed their common character is their mobility united to a strictly dependent nature. They pass from thought to thought, but can never subsist by themselves. Thus our questions, as well as our judgments, may assume a hypothetical, disjunctive, or problematic form; and even our supposals. I may say, "Let us argue no more, but assume that this is probably the case, and see what follows from this assumption;" or, "If one or other of these alternatives is true, what inference can be drawn from that supposal?" And these mobile elements that attach themselves to the fundamental types of thought are not even confined by the circle of them; but some, though not all, project themselves into our volitions. "If he persist in his present behaviour, I shall leave," is a genuine hypothetical volition, as "I shall travel *via* Calais or Boulogne" is one of a disjunctive type. And although both judgments are problematic in a sense, as both, at a point, infected with doubt, yet if we introduce doubt at another we destroy their volitional character. "I may travel," "I probably shall leave," are not volitions. The problematic element introduced at this point in whatever degree, from mere possibility up to almost complete certitude, is incompatible with the fact of volition; and if I am not quite convinced that if something happen I shall act, or that I shall definitely go to the one place or the other, there can be no will. While in the state antecedent to choice we are not sure what we are going to do, while in the state subsequent to weak volitions we again relapse into doubt, the moment of volition is a moment of belief. Full undoubting belief embraces it at a point, though over all the rest doubt may range in all its degrees. Thus I may be doubtful as to my success, but I am certain that I shall try. Our volitions are categorical, disjunctive, hypothetical, posi-

tive and negative, but problematic in this sense they cannot be.

Yet these hypothetical and disjunctive volitions are peculiar in their structure, and disturb all our accounts and definitions of will. In the one we do not judge that we are going to do anything. We resolve, yet without resolving to do that which we have in mind, and without resolving not to do it. What is certain and above doubt, where everything depends on a supposal? Yet the volition is certain, of something I am quite sure. I am quite sure that I shall act provided something else happen. But I am not sure I shall act, because I am not sure "something else" will happen. I am only sure of the relation of dependence between two events, the condition and my consequent action, but not of the happening of either. I am sure that this relation is the result of my will: I will this relation of dependence: that is the object and end of my volition.

Now we have always supposed that in volition we think of the idea as about to become fact. But in hypothetical volition, what is this idea? "If he continue in his present behaviour, I shall leave." It is not the continuance of his present behaviour that I will shall become fact, nor yet the idea of my leaving. What I will is that the one event shall produce the other. Yet we cannot eliminate the unique hypothetical character of the volition; for it is only on the supposition that the first event occurs that I will it to produce the second event. And this causal relation cannot occur without the happening of the first event; but, as I do not will the happening of the first event, I cannot even will the occurrence of this causal relation. I will that nothing shall, in point of fact, take place; but as before my volition occurred the continuance of his present behaviour might have produced any one of several consequences, the end of my volition is that it shall produce definitely one of them, namely, the fact of my leaving, and yet shall produce this one result only on the supposition that his conduct be not changed. This hypothetical form of the volition is irresolvable; we can neither analyse it into a categorical volition, nor interpret it by this type of will. Categorical volitions affirm that I am going or not going to do something: hypothetical volitions do not affirm that I am going to do anything.

It has been maintained by some logicians that the hypothetical may be reduced to a categorical judgment; and here, as in the treatment of negative volition, we must be careful

not to confuse what a content of thought logically involves with what an occurring thought actually contains. It is true that the hypothetical judgment involves a categorical. "If he persist in his present behaviour, I shall leave" involves a categorical judgment as to his objectionable conduct. Nay more, this judgment has actually occurred, and its occurrence has been a psychical condition of the volitional attitude which succeeds to it. But, as categorical, it does not make a definite action in the future conditional on the persistence of his objectionable conduct. The categorical judgment contains no supposal; and the hypothetical cannot therefore be resolved into it. The hypothetical psychologically contains a supposal, but contains no judgment. If the categorical judgment persist, it is co-presented with the hypothetical, but not contained in it, as, "His conduct is objectionable; I shall leave if it continue". We must therefore conclude that although the hypothetical logically involves, it neither contains nor can be analysed into a categorical judgment, but is, in respect of its supposal, a distinctive attitude of thought.

If we take next the disjunctive type of will, "I shall go either to Calais or Boulogne," it may be said that this does contain a categorical volition. It is certain that we are going to travel, but we are in doubt whether our temporary destination shall be Calais or Boulogne. We may say that the only volition is this categorical judgment that we are going to travel, and that in the undecided thought that we shall go either to Calais or Boulogne there is no will. But suppose that we have excluded other alternatives, that we have settled not to go to Havre or Dieppe, and have definitely confined ourselves to the alternative of Calais or Boulogne, then over and above a vague resolution to travel, there is the more definite resolution that we shall travel either to Calais or Boulogne. Instead of containing more doubt, this disjunctive volition contains less; and you cannot reduce it to the vaguer categorical volition which may have preceded it. But we may ask: Is it our previous type of hypothetical will differently expressed? for, if I do not go to Calais, I shall go to Boulogne, and if not to Boulogne, to Calais. But neither of these hypotheticals taken separately commits me to the alternative of one or the other. "If I do not go to Calais I shall go to Boulogne," does not tell me what must happen if I do go to Calais. Neither of these hypotheticals taken separately is then a disjunctive volition. Each tells me what will follow from a given supposal. Neither tells me that this supposal must become fact, nor

what will follow from the alternative supposal. But is the disjunctive volition the combination of both hypotheticals? If we think of both together—"Suppose I do not go to Calais, I shall go to Boulogne," and "Suppose I do not go to Boulogne, I shall go to Calais"—and become conscious of their mutual relations, we reach the conclusion, whether logically valid or not, that I shall go to Boulogne *or* Calais. Our two judgments have been succeeded by a single judgment; and do we suppose that its psychosis gathers up and contains them as psychical facts? Their "Suppose I go to Calais" and "Suppose I go to Boulogne" have given place to a definite "I shall go to the one town or the other". They are only the psychical conditions on which this new disjunctive judgment is dependent. And assuming what is certainly not the psychical fact, that we always reach a disjunctive volition through first reflecting on two or more such hypothetical volitions, none the less it is not a combination, nor a putting of them side by side. Before it can occur their attitude of supposal must give place to a single assertorial attitude. Hypothetical volition does not assure me that anything will become fact: disjunctive volition assures me that, so far at least as I am concerned in its production, something will become fact. The judgment of hypothetical volition does not affirm that I am going to do anything; the judgment of disjunctive volition affirms that I am going to do one thing or another.

Our bias for analysing one form of thought into another will receive a good many checks of this sort before we recognise that the forms of thought and conation are unique differentiations.

In distinguishing will from mere conations, we have been led to emphasise the judgment into which some conations develop as that which is distinctive of will. But the form of this judgment is not exclusively categorical, disjunctive or hypothetical, affirmative or negative; and if we rely on the form alone and expect to find the qualitative difference of will within this form, we shall be disappointed. For we can easily construct hypothetical and disjunctive judgments similar to those we have just considered, which we can see at a glance are not volitions. "If he is there I shall see him," has the same form as the judgment "If he is there I will see him," yet the one is a mere judgment, the other also a volition. Nor is it that in the one the conation of desire is absent, in the other, present. For I may desire to see him in both cases; but in the one this leads to a state of expectancy, in the other, to a state of will.

Propositions of the same form and in the same person express both. They differ in only a single word, and the use of the word "shall" in the context of the one indicates that the meaning is a mere judgment, and the word "will" in the other, that the judgment contains also a volition. So also the disjunctive judgment, "I shall go either to Calais or Boulogne," contains a volition, while the similar judgment, "I shall go or I shall not," is so pervaded by doubt as to exclude the possibility of will.

We cannot then rely on the form of these judgments; all depends on what they actually contain. And we can vaguely recognise two essential characters of this content. "If you are there I shall see you" is not will; "If you are there I shall make a point of seeing you" is. In the one judgment there is an emphasis laid on the agency of the self which is wholly absent from the other. Yet, in other cases which also in a sense concern the self's agency, the hypothetical judgment expresses no more than expectation. "If I am tempted in that way I shall succumb" does not imply a present volition on my part to yield to temptation, but a mere expectation based on an experience of my own weakness. Yet in both judgments I affirm that I shall act in a certain way on the supposition of some event occurring.

The other essential character of will has been brought out by our study of the disjunctive judgment. That judgment is always affected by doubt at a point, and is, in this sense, problematic: but where it contains volition there is always a core of belief. It is difficult to point out this core of belief, for it is to the fact of volition that it essentially refers; and if we cannot point out the volition in the complex psychosis which contains it, we cannot specify the belief. This belief is not always that I shall accomplish what I intend; for I may be doubtful of success. It is not essentially a belief that I shall do anything; for my volition may rest on a supposal; nor even that I shall try to do something, for this also may rest on a supposal. But unless I believe, unless I am aware —for the belief is a judgment—that, conditionally or unconditionally, I shall try to do something, there can be no will.

IV.—Fictitious Choice.

We may draw the line between conation and will where the former divides into two contrary tendencies, each carrying an idea of its end. We may maintain that we cannot be said to will, and can have no sense of freedom where there is not

present before action a second and alternative idea, even if it be only the negative idea of not doing that to which the first idea impels us. Volition or "selective action," says Prof. Titchener, "arises where we have in consciousness the materials of two different impulses, where two compound ideas of object and result are both alike supplemented by the idea of one's own movement, and the attention oscillates from the one to the other," accompanied by doubt and the "mood of indecision".[1] In this narrower use of the term, volition is synonymous with choice; and what we have taken to be simple volitions, where only one end is represented before action, can be no more than conations. As we have already the term 'choice,' which clearly designates this complex type, it would seem better and more in consonance with the common usage to allow the wider term 'will' to include our simple varieties.

Complex volition or choice is preceded by doubt and conflict. It is "the mental state which emerges when the process of conflict ceases because it has worked itself out to a definite conclusion".[2] The conflicting desires which in the state of indecision appeared as motives, now "disappear or appear only as obstacles"[3] on the same plane with any other difficulty in the way of achievement. But the presence of conflicting desires is not the choice between them. One or both may disappear before any decision is arrived at. Where there is choice they must culminate in the definite judgment that, conditionally or unconditionally, we are going to realise the end of one of them. The process of attention which persists throughout must undergo this modification. Choice, like simple volition, will appear to consist "in a certain kind of judgment or belief".[4]

If you ask a child which of two playthings he would like to have, he hesitates before he chooses. His doubt may last an appreciable time or pass in a moment, but in either case it is abolished by a process of thought. By a comparison of the two objects, he decides between them. He has to find an answer to the question suggested to him, "Which do I like more?" and his judgment that he prefers *this* and not the other object is completed in the volition, "I will have *this*". Note that the mind is probably determined at the outset by

[1] *Outline of Psychology*, pp. 254-255.

[2] *Analytic Psychology*, by G. F. Stout, vol. i., p. 131.

[3] G. F. Stout, MIND, N.S., vol. v., p. 337.

[4] *Ibid.*, p. 356.

the idea of the stronger liking, it is only in doubt which this is. This determination is partly due to the question proposed to it. If that question had been, "Which plaything will teach you more?" the idea of utility, in spite of its unattractiveness to the mind of the child, might have aroused a momentary conflict with his inborn tendency to be guided by the stronger liking. But here the issue is simple and restricted from the outset. The child's mind is made up before it chooses, all that is left undecided is on which side its liking is stronger. When again we are on a journey, and in doubt which of two routes to choose, yet decided to take the shorter, a similar process of thought, where evidence is at hand, develops the selective judgment that abolishes the conflict, the doubt and the question. And even when in youth we deliberate what shall be our profession, if we happen to be either prudently decided to adopt that which would be most for our interest, or, on the other hand, to follow our strongest inclination, a process of thought essentially the same, though more complex and prolonged, develops the decisive judgment which displaces it. In all similar cases, whether, as in the first, the question is, "Which of two objects is the better in some respect?" or, as in the second, "Which is the shorter way to our destination?" or, as in the third, "Which end is better in this or that respect?" and where we are decided at the outset, whether knowingly or not, to choose the better in the way we have conceived it, then our choice is the judgment in which the state of doubt and conflict culminates. Note, however, that this judgment is not merely an answer to a question asked by the intellect, but also somewhere implies will—"Which shall I take?" "What shall I do?" "What shall I be?" And the answer, "This," does not only contain the judgment, "This is better," but, fused into one with it, the further judgment, "I will take This," "I will do This," "I will be This".

What this double aspect implies will become clearer to us if we modify the kind of question to which our choice is the answer. If instead of asking, "Which shall I take?" "What shall I do?" "What shall I be?" we ask, "What will be given to me?" "What will be done to me?" "What shall I become?" we feel that the answer to these three questions cannot reveal will, while the answer to the former, in the common meaning of the word, must reveal it. There is a difference between them. The questions that provoke will have a specific character distinguishing them from other questions. It is obvious that the first three concern the agency of the self,

while the second ask what will be given, done, or happen to the self. And their answers correspond. The first three affirm that the self is to be an agent in taking, doing or becoming something: the second that the self is to be a patient, as the recipient of a gift, as suffering some action, as undergoing some transformation of character. Complex volition or choice is then a judgment of the self's agency. It is the outcome of such a doubt and question as must, if it be answered, result in choice. And it emerges when that antecedent process "has worked itself out to a definite conclusion".[1]

But the three examples we have taken represent different types: (1) The mind of the traveller is made up at the outset. He confines himself to the one question, "Which route is shortest?" He is determined to take the shortest. Now this set of his will may have been the outcome on a former occasion of doubt, question and conflict, in which case it is choice, according to our provisional definition. On the other hand, it may not have been. The man may never have asked, "Shall I take the shorter route or the more beautiful?" But his strong practical habits and commercial interests may have determined his will without doubt or conflict, in the only way that would seem reasonable to him. He knows he is going to take the shorter route, and he has never thought of taking any other. His initial determination is not choice, it is a simple not a complex volition. But its subsequent progress is marked by doubt, question and conflict. The man now asks, "Which route is shorter?" He is uncertain which. Still this conflict is merely a conflict of ideas. The question is addressed only to the intellect. It does not unsettle the will. It does not mean, "What am I going to *will?*" for that is already determined, but, "What am I going to *know?*" *viz.*, whether this or the other route will accomplish my preformed volition. Where then is there a real choice? A simple volition controls the subsequent sequence and works out the means to its own accomplishment. Doubt, question and conflict follow, instead of as in real choice preceding, volition. The complexity is a complexity of thought merely, and as far as the will is concerned its choice is fictitious.

Still we may argue, The traveller has reached the conclusion that he is going to take *this* and not the alternative route. His judgment is will according to our definition; and it follows a process of doubt and conflict and is, therefore,

[1] MIND, N.S., vol. v., p. 131.

choice. Our answer must be that his volition does not appear for the first time in the conclusion. It has been present to his mind from the beginning and persists throughout. And the process of doubt, question and conflict is a means to its end, because it provokes the knowledge of which it stands in need. The will is not the outcome of this conflict, and is therefore not choice, but subordinates the conflict to the idea of its end.

(2) We have assumed that the traveller knew at the outset that he would take the shortest route. A single dominant conation is implied in the question he asked, in the fact that he confined himself to this question. But he may not have been conscious of this conation: he may not have known that he would take the shortest route instead of the most beautiful. In that case the initial set of his mind is blind conation; a set of the character, not a set of the will. Where then does the will appear, where is there a real choice? As in the last case, the doubt and question refer to the intellect. There is a conflict of thoughts, not a conflict of desires. And this intellectual process controlled by a blind conation culminates in the judgment that *this* route is shortest. But as soon as he reaches this conclusion, his blind conation is illumined by a consciousness of his end, and the man knows that he will take this route. Through knowledge, conation has developed into will, and we realise the truth of Mr. Stout's maxim that it is "the cognitive side of our character which gives determinate character to the conative".[1]

Still there is no choice, if choice means the selection between conflicting conations or motives. It is a simple volition which coincides with a selection between ideas controlled by a single motive. It is the fictitious choice of judgment confused with the real choice of will because it is fused into one psychosis with a simple volition: "This route is shortest; I will take it". Here the first phrase expresses the selective judgment, the second the simple and driven will.

There is this difference between our two types. In the first, a simple volition precedes and controls the process of doubt which culminates in fictitious choice. In the second it succeeds the process of doubt and conflict and coincides with the moment of fictitious choice. And there is this in common between them: in neither is there any conflict of desires or motives.

[1] MIND, N.S., vol. v., p. 356.

(3) The case of the youth in easy circumstances and free to do as he likes who is resolved to choose that profession for which his inclination is strongest, yet in doubt as to which is his strongest inclination, differs in a material respect from both the preceding types. Here there is a genuine conflict of desires. Different manners of life alternately appeal to him. Each awakens a strong desire. He hesitates for long between them; for the most intense may not be the most persistent. At length, after many contrary opinions, he reaches the momentous choice which decides his career. There is surely nothing fictitious about this choice! Where could we find one more real to oppose to it? Yet, as in the first type, he starts from a volition, and the conflict of opinion which follows is instrumental to it. The rival desires are not motives to his will which is already decided, but motives to his thought which has to decide which of them is the stronger. And this decision or choice is obviously a judgment, and the volition to which it is subordinate remains essentially what it was at the beginning. Its end has indeed changed, and through the process of thought has become more definite. At first it was, "I will adopt that profession which . . ."; now it is, "I will adopt *this* profession". But if at the beginning it were simple as a volition, it is simple now; if it were a choice, it remains a choice. And the decision between the conflicting desires is the fictitious choice of judgment.

Conflicting desires are in a right sense only motives to the will, where the will is the outcome of their conflict. Where it precedes and subordinates them, they are not its motives. Our resolutions are sometimes followed by the desire that we had not made them. But if we remain steadfast the desire is not a motive, and no more than an "obstacle" or hindrance. Where it unsettles the will and throws us anew into the state of doubt from which we had escaped, it is still not a motive to that volition, but to the new volition which tends to replace it. If the youth had asked, "After all, is it not wiser to set aside my inclinations and adopt that profession which offers me solid advantages?" in that case, if his resolution had given way, there would have ensued a genuine conflict of motives. Torn between his preference for one mode of life and the love of wealth or position directing him to another, he would have been forced to choose between these conflicting motives or to remain undecided.

(4) We come next to the fourth type: the case of the child who is called upon to choose between two playthings. If the child ask itself which plaything is nicer, and ask itself no

further question, then this question is witness to the presence of a conation which will be embodied in the judgment which answers it, and will determine the action. This conation is probably blind at the outset—a blind set of the will; and it is never called in question or doubted. Only a speculative difficulty remains; and fixing attention alternately on these two objects, it must let them play upon its feelings until some difference between their intensities is produced; and then, on the first recognition of a superiority on one side or the other, its impulsive conation rushes into will and self-consciousness in the judgment which signalises its discovery, "This is nicer: I will have this". Now here we may suppose that both playthings appeal to the child's feelings, that alternately he feels desire for both. There is then, as in the last case, a conflict of desires; and the will—the conscious will—is the outcome of this conflict, and does not as in the last case precede it. And these desires are motives since the will chooses between them. Does it not follow that this is a genuine and not a fictitious choice—that the choice is a volition and not the mere selective judgment which follows a disjunctive question? We must answer this question in the affirmative if we hold by our definition of will—that it is not a blind but a foreseeing conation culminating in the judgment that the self is going to accomplish the event foreseen. And yet this result is not satisfactory. We shall be inclined to reverse it, to apply to all our four types the same treatment, and say: So far as there is any will in the process, it is at the commencement, not at the conclusion. All are types of fictitious choice; no one is real. For the mind is made up at the commencement, and nothing occurs afterwards to alter the blind or conscious set of its will; all that follows is the light thrown by the intellect upon the conflicting thoughts or desires, so that one of them is seen to represent the object of this pre-existent will. And we are often disposed to take this broad view of the will. Those deep forces within us which work for the most part unseen, their tendencies unforeseen, whose objects only rise into clear thought at times, and at the moment of action are embodied in the judgment that we are going to fulfil them, seem to us the real and abiding will, and their conscious expression an accident or momentary phase, the mere play of thought upon their upmost surfaces.

We have come to distinguish two kinds of choice, fictitious and real; but the former is real as far as judgment is concerned, fictitious only as far as will is concerned. The weak introspection and analysis of ordinary thought confuses

them, it applies the same term, 'choice,' to both; and it means by the term a complex type of will. But one of them is fictitious choice embodying only a simple volition. Fictitious choice is not a selection between conflicting motives: it may deal with desires and decide between them; but its decision is a judgment. It has like all judgment the character of truth or falsity: and like all judgment which resolves a doubt and disjunctive question, it selects one of the conflicting ideas of the state of doubt: but it does not select one of the conflicting motives. It may affirm that one desire is better, the other worse; that one is stronger, the other weaker; that one road is longer, the other shorter; and if the question has been which of them is better or stronger, or shorter, it decides, selects, banishes doubt and assumes the externals of a volition; but its fictitious character is most clearly exposed where it is followed by a genuine choice which makes an opposite selection. It may select the shorter, and the will may select the longer: it may select the better, and the will may follow the worse: it may select the stronger, and the will may reinforce the weaker. The choosing will does not affirm the qualities of its motives nor their relative strength, nor the best means to their fulfilment: it simply decides between their rival conations. The will cannot judge in the sense of affirming what is true or false. Its "I will do this" is neither true nor false in the same sense in which a judgment is true or false: it does not become true when its end is realised, nor false when it fails. Though we may lie and say, "I will do this," meaning it not, the lie attaches only to the judgment; and our inward and hidden intent, though it only becomes self-conscious in a judgment, is no more a judgment than desire is, and is neither true nor false. We have seen in former types how a judgment may assume the character of a simple volition; we see in the present type how it may assume the character of complex volition or choice.

V.—Involuntary Action.

An involuntary action is well defined by Mr. Stout to be "one which takes place in opposition to a voluntary resolution which exists simultaneously with it and is not displaced by it".[1] We often do what is contrary to our intention without anticipating the result; as where a child in trying to help hinders some one. But the involuntary actions we are to

[1] Mind, N.S., vol. v., p. 356.

consider are partly produced by the strength of the idea which represents them. Now when an idea produces the action by its own strength and without any concurrent resolution on our part, that is called ideo-motor action: when an idea produces the action it represents not merely without our concurrence, but in spite of a contrary resolution, that we shall name involuntary ideo-motor action.

Conflict is of the essence of this type; we strive to restrain an idea of abnormal strength: we fail and our volition is abortive. But as complex volition is also characterised by conflict, we may perhaps find this type representative of real choice.

The first sub-types we shall consider are those produced through fear. A man struggles not to become confused or dumfoundered through fear, and the idea of this result is that which produces it; or he resolves that an anxious idea shall not interfere with some delicate operation he is conducting which requires calmness and self-control; or that he will not attend to a horrible idea that is coming to fascinate him. And this impulse of fear, which, when not too intense, aids our escape from its object, here, through some morbid development or excessive intensity, defeats its instinctive end, and draws us to the very object we are striving to avoid. Ordinarily when we recognise within us the presence of such an overmastering fear, we at once concentrate all the energies of our will in resisting it. We pass through no intervening state of doubt. We do not first ask ourselves, "Shall I oppose it or shall I yield?" and decide after deliberation. Our action is immediate; there is no "struggle so far as regards our own part in the matter".[1] If then the precedence of such a struggle as this with doubt and question is essential to complex volition or choice, if choice is the mental state which arises when such a conflict ceases, then there is no choice. And there can be no real choice without a conflict of motives. But here there is only one motive present, the desire to restrain the action the idea of which persists. There is indeed another and contrary motive in a different sense. There is something present which is *moving* us to action, but it moves us to an involuntary not to a voluntary action. It is not a motive *to* the will but *against* it. The conflict is then between a motive which the will immediately supports and an obstacle to that volition. And the doubt which so penetrates us at such times is not any doubt as to what we are going to will, but whether we can

[1] *Op. cit.*

accomplish our volition. The mental state or psychosis can then at most be a simple volition. But has it even reached this stage of development?

In considering the type of simple volition, we found that an essential element of it was a judgment, in the common type, a categorical judgment that we were going to accomplish a desired end. But it appeared that this judgment only occurred where a sufficient pause intervened between the desire and its execution. Some obstacle delays the outrush of desire, and in the interval we become conscious that we are doing to satisfy our desire. Here also there is an obstacle, and our desire finds itself constrained. But we are already struggling against this obstacle before we recognise that we are doing so. Our impulse to escape from any object we fear is instinctive. A conscious volition may support this impulse, but the impulse precedes it. Now, what we have to inquire is whether an involuntary action does not sometimes occur so suddenly through the fear that we have of doing it, that the only conation that has time to develop for its restraint is just such an instinctive impulse as fear always involves. In learning to bicycle, people sometimes find that the mere terror which seizes them at the thought of running into a passing vehicle is sufficient to bring about the accident. On such occasions, the thought which occurs to their minds, often betrayed by their exclamation, is, "I know I shall run into it!" If fear left them time for reflexion before the accident, the second judgment, "I shall try not to," might also occur as the revelation of a conscious will antagonistic to the involuntary impulse. But there is no sufficient interval. As soon as the first judgment occurs, the collision takes place. In this strange type — common to our experience, but strange to our preconceptions of will — we find an involuntary tendency that apes the character of volition in the judgment that we are going to accomplish the object of that tendency, while the voluntary impulse opposed to it never attains to this degree of development, but reaches at most to the idea of not doing the action without culminating in the definite judgment that we are not going to do it. Yet we should describe the collision as involuntary, and we should say that it occurred in spite of our voluntary effort. For, however unsuccessfully, we tried to avoid it; though our momentary effort was confused and overpowered through fear of the accident. But according to our definition of will, this effort is not volition, because it is instinctive and precedes the idea of escape, and because this idea of escape does not develop into the judgment that we shall try to

escape. Were this judgment to occur, it would still succeed and not precede our effort. It would not determine our abortive effort: our abortive effort would determine it. It would, in fact, be a mere recognition of what was actually taking place, namely, our effort to escape. If, then, our effort be not a volition, the triumph of the contrary idea and judgment cannot produce an action involuntary or against will. Here, again, we feel tempted to broaden our definition of will. The effort which comes to our succour when some morbid idea or sudden emotion threatens us with destruction, however obscure it be, seems to us a genuine propulsion of the will, and, as we should say, an effort of self-control. Though it proceed not from the self as conscious thought, it proceeds from the primitive self as a system of tendencies instinctively organised for our preservation. And any impulse that proceeds from this self and is subordinated to its end seems will to us, so far at least as it gathers some idea of its end, although the idea be subsequent to the impulse, not the impulse to the idea. Where, on the other hand, an impulse is provoked which is not subordinated to the instinctive end of the organism or the conscious ends of the mind, though it proceed from this primitive self, yet it is not will, because it has escaped from the control of this self. The present case is an example. An emotion of fear, through a too great intensity, has defeated its instinctive end, and driven us to the very object we should avoid. It has broken apart from that instinctive organisation of the self, and therefore can be no longer the will of that self. The fullest consciousness will no longer make it will. And this we see clearly in the present example. We have an idea of the accident before it takes place, and, through the fear that possesses us, a consciousness that we are about to fulfil this idea; and yet this express judgment that we regarded as distinctive of will does not bring the impulse one degree nearer to volition than it would have been had it remained a blind tendency.

On the other hand, successfully as this conception of will interprets the present type, we should meet with many difficulties if we put it forward as the essential character of volition. Its definition is this: What the self does consciously is will. And "does" means not merely what it outwardly accomplishes, but what it is striving to do, as in the present thwarted impulse. Will then in this sense is the conation of the self. From which it follows that the striving of desire is will, whether or not we decide that we shall satisfy our desire. But at least, in any right sense of the term, there can only be one volition present at a given moment. Where

we have contrary desires which then is will? That which proceeds from the self? But both proceed from the self, belong to different sides or interests of that one self. One, say, is the interest in our profession, the other, interest in our country; or, one is the sentiment of pleasure, the other, the sentiment of duty. In all complex volition the self is ambiguous, and it is only at the decisive moment when we reject one desire and welcome its opponent that we know in which line of tendency the self is henceforth manifest. Then the self contracts. That which a moment before was one of its motives has now become an "obstacle" and a not-self. The volition has negatived it. It is excluded from the new limits of the self. And, instead of the conation of the self being *ipso facto* will, it is the conation which has become will that constitutes the sentiment from which it precedes the self. That mental system which has power to develop will becomes the new self. And the mental system, say of a fixed idea, though it culminate in the judgment of its prospective triumph and realisation, where it cannot develop a will, cannot become the self of the moment; where it is opposed by the will of another system it becomes a not-self; and all that proceeds from it is involuntary action. If we are then compelled to maintain our former definition as against this alternative conception of will, we cannot class the present type with involuntary actions. We must call it non-voluntary ideo-motor action.

In other cases fear produces genuine involuntary action. The game of golf furnishes an excellent illustration of this. It is one of the most deliberate games ever invented. We are not called upon to face, as in cricket, a sudden situation to which we must promptly adapt ourselves; but before each stroke we may exercise as much thought and deliberation as we judge necessary. It is therefore peculiarly influenced by the character and play of our ideas. In all difficult undertakings confidence aids success; but in varying degrees. Here it is of so much importance that if we have an idea that we shall fail in any particular stroke we commonly do fail. Unreasonable fears disturb at times even good players. The sight of a long distance of sand or water will suggest to one that he will not succeed in driving his ball across it, though he knows himself capable of the achievement. And if he fail he will often tell you that he knew that he was going to fail. This judgment has irresistibly formulated itself in his mind through fear, though he is conscious of a voluntary resolution opposed to it. His voluntary resolution cannot acquire the same degree of confidence.

He cannot persuade himself that he knows he is going to succeed, or he probably would succeed. He knows only that he is trying his best, depressed by the influence of an idea that he cannot exclude. Here in this type we have an undoubted volition rendered abortive by a contrary idea and judgment, and the result is an involuntary ideo-motor action.

But how do we know that this action is involuntary? Like the last type, it has aped the character of categorical volition in the judgment that we are going to realise the action. But if desire be essential to volition, the action cannot be voluntary because we had no desire to accomplish it, but, on the contrary, a strong aversion.

Again in this type, as in the preceding, there is no choice, if choice means the decision between rival motives. There is only one motive present, the desire to succeed; and the fear of failure constitutes a mere obstacle to the volition in which this desire results. Yet there is doubt and conflict present; but this concerns, not what we are going to decide, but whether our resolution will be effective. It is a doubt which is not a condition precedent of will, but complicates its progress. Now the only distinction between this and the preceding type of non-voluntary ideo-motor action is that here the instinctive tendency to escape from the object we fear has a sufficient interval to develop into a conscious volition in the judgment that I shall try to do that which fear suggests to me I shall fail in doing.

In other cases of involuntary action, there may be a conflict of desires present. Thus in struggling to restrain a reflex tendency, as Mr. Stout has well recognised, the impulse of that tendency becomes defined as a desire. To restrain a yawn or cough is so disagreeable that we long to let it escape and have done with it. On the other hand there is often an opposite desire present, and to permit a reflex tendency to escape may be ill-bred or even disgraceful; while in other cases, as where an army is on a march and complete silence has to be maintained, a fit of coughing may endanger its safety. And here the difficulty of distinguishing by the presence of a judgment between will and the involuntary tendency is at its climax.[1]

But we are now prepared for this result. The judgment that we were going to accomplish some end which, in our first type, we assumed to be not merely an essential constituent of will, but its distinctive constituent, that assump-

[1] See Mr. Stout's article already referred to, p. 360.

tion we have had to surrender. We have seen hypothetical and disjunctive judgments which by their form are not to be distinguished from hypothetical and disjunctive volitions; and in our present type we have merely discovered examples of categorical judgments which ape the character of categorical volitions. There is indeed no reason why an involuntary tendency, any less than will, when it is at the point of accomplishing its end, should not become embodied in the same kind of judgment, making known to us the results which it is to bring about. We have to pass from the judgment to what it actually contains, before we can tell whether it embody an involuntary impulse or a volition.

If we ask, in the next place, whether, in restraining a reflex tendency which has become a pressing desire, we are exhibiting choice, it does not follow because there are opposite desires present that there is any choice between them. As in the third type of fictitious choice, the decision between opposite desires was determined by a pre-existing volition, and the decision itself was no other than a judgment that decided which desire were stronger; so here for another reason there may be no choice, if choice is a volition preceded by a genuine doubt as to the desire we are going to select. As in the types of involuntary action due to fear, we decide without hesitation, so here the escape of the reflex tendency may be so disgraceful, or fraught with such serious consequences, that we never doubt or ask ourselves whether we should permit it to escape; we decide at once to restrain it. It may be objected that a moment before we decide to restrain the reflex tendency, there must be some doubt as to what we are going to decide; but this objection would exemplify that frequent source of error in our science named by Prof. James "the psychologist's fallacy". We, taking up the standpoint of an external observer, may judge that there is some uncertainty how the individual in question may act: he may experience no such uncertainty, but as soon as he recognises the conflicting tendencies, decide at once between them. When the order has been given by a military commander that, to surprise an enemy, the march must be noiseless, it may be difficult and painful for some individual to repress the tendency to cough, but the habit of military obedience does not admit of any doubt rising in his mind as to whether he should obey or satisfy a desire which is becoming imperious. He at once resists it, and if it escape, it escapes in spite of him. The volition is after all a simple volition; and the disciplined soldier cannot be said to choose to obey his superior.

And, lastly, in involuntary action there may be a genuine choice rendered abortive by the triumph of the involuntary impulse. It is, however, difficult to find any unambiguous example of such a type. There are no doubt cases of morbid ideas that possess and fascinate attention, which we resist at times and at other times question whether we should any longer continue our futile resistance; yet supposing we resolved to continue it after such question and doubt, our resistance is choice, but it does not follow it was persisted in until the involuntary action escaped. What commonly happens is that the involuntary impulse gathers fresh strength and is suddenly realised without our thinking of resisting it until too late. It is then only involuntary in the sense of being opposed to a prior volition that we have never consciously revoked, but forgotten at the crucial moment. Many of our actions that in strictness are non-voluntary, as containing at that moment neither the volition to do or not to do them, would in this sense fall within the category of involuntary actions. Our good resolutions are forgotten, but seldom revoked.

VI.—Will as Imperative.

At the end of his long and brilliant chapter on the will, after having shown in vivid illustration that its essential character is effort of attending, Prof. James comes to recognise that some complex types contain an additional constituent. This he frankly confesses he cannot analyse. We may name it a consent, a *fiat* or imperative, but we can go no farther: "the indicative and imperative moods are as much ultimate categories of thinking as they are of grammar!"[1]

It is a curious fact that while we frequently use the imperative mood where our object is to control the conduct of another, we seldom if ever use it at the moment of volition, in the control of our own conduct. But if we listen to the inward voices at times of stress and doubt, in the conflict preceding choice, we find that *they* often address us in the imperative mood. The moral sentiment so frequently adopts this attitude that we name it the moral imperative; and our mutinous desires also call to us through the fight: "Do it, take it, away with your scruples!" But the response of our will is different. It is like the action of a man that seizes a fellow-creature who is falling and cannot save him-

[1] *Prin. of Psy.*, vol. ii. p. 569.

self, but does not impotently command him to rise; or, that holding an animal which struggles to escape, does not bid it begone, but, what is more to the purpose, sets it free.

The indicative and imperative moods may be ultimate categories of thought; but if we have been tempted to identify the imperative mood with volition, we must reluctantly conclude that it is often present in the state of conflict preceding voluntary choice, and often absent in the decisive moment which abolishes our doubt and conflict.

Yet where our object is to control the conduct of children, servants and our subordinates generally, volition assumes the attitude of an imperative, sometimes politely disguised as a request, sometimes assuming the peremptory tone of a command.

Will is not then essentially an imperative, any more than it is essentially defined in a categorical, a disjunctive or a hypothetical judgment. It is indicative as well as imperative. And the imperative, like the disjunctive and hypothetical judgments, is ambiguous, and may or may not contain will. Where it appears in the state of indecision preceding choice, it is the specific attitude which our rival conations assume in face of the inward obstacle to their satisfaction; where it appears in our external volitions, it is the specific attitude which these assume in the face of an external obstacle to their realisation. In the one case, the obstacle is a rival motive; in the other, it lies in the inertia and conflicting desires and will of our fellow-men. If we see a servant bringing us what we want, we do not order him to bring it; if a child is doing what he is permitted to do, we do not order him to desist. Our order is given where without it our wants would not be attended to or our will would not be obeyed. But where people are angry, they often give meaningless or inconsistent directions; they command that to be brought to them which they see is on the way, or children to cease doing what they have permitted them to do. The emotion of anger finds a vent in overcoming the obstacle of a proper self-respect and dignity in subordinates.

We can now understand why it is that the imperative does not appear in the volitions that control our own conduct. Where our end can be obtained independently of the aid or concurrence of our fellow-men, the imperative is absent, because its presence would be meaningless. If our volition has been preceded by a conflict of motives, that conflict has now ceased, our course is decided, and there is nothing for an imperative to accomplish. But it appears in this state of indecision preceding choice, because volition is absent, and

may be provoked by an imperative like the will of another man. And how often these imperatives seem to us to have an extrinsic source, and to be the echoes within of the will of the gods or our fellow-men without. We do not at first identify such inward voices with ourself. As when we think, the opinions of other men occur to us as not our own opinions, as not yet affirmed or denied by our judgment, so before we will the commands of our parents and those whom we venerate, and the codes of society or religion, often occur to us, as not commands proceeding from ourself, and not yet consented to or rejected by our will.

And so the imperative is always a stimulus to our will or conation, or to the will or conation of other men. But is itself ever a volition? Or, in other words, as there are categorical, disjunctive and hypothetical types of will, are there also imperative volitions? If there be, they seem only to occur where the object of the imperative is to control the conduct of another person and not our own.

But sometimes the imperative mood is only a short and abrupt expression of desire. "Come and see me," may mean, "I desire," not, "I command it". Only the form is imperative; the meaning is different. At other times the meaning is imperative. An undoubted command is given, and understood as such both by the person addressing it and the person to whom it is addressed. And we recognise this as volition. But often where we give an order, as in our simple categorical volitions, we are not conscious of any other desire, except the one which we direct shall be satisfied. We are not thinking of the desires of the person we address, and whether these are antagonistic to our own. From the habit of giving orders to our subordinates, we give them without thinking of their feelings, so long as the order belongs to the class which we are accustomed to give and they to obey. In this case the imperative is a simple volition. But at other times we become clearly conscious of a conation in them which our imperative is meant to restrain. If a child is doing what he is not permitted to do, he is told to desist. Or if we anticipate that he is going to do it, we remind him that the action is forbidden. In such cases there seem to be two ideas present—the idea which we foresee the child is going to do and the contrary idea of the conduct which we prescribe. The one idea is expressive of a conation in ourselves; the other of a conation in the child. Can we ever choose between two conations, one of which is in ourselves, the other in the mind of another person? We should answer this question in the negative. Only so far as the conation

of another person becomes ours through sympathy, or through its harmony with our sentiments, does it become a motive to the will and an alternative to the desire we feel. But since the desire of another person often becomes such a motive in one way or the other, the imperative may be the result of a complex volition or choice. Thus you both desire to do what is best for your child, and you desire also through sympathy to yield to his desire. And where we choose between these motives, there seems first to be present to our minds the judgment that we are going to follow one of these two desires, and only afterwards, as it were a means to carrying this judgment into effect, does there issue from us an imperative or order to the child. Thus we are compelled to ask whether after all the imperative can be a volition, or only the means by which a preformed volition accomplishes its end.

If we assume it to be only a means, we shall find it troublesome to point out in all cases the volition that precedes it. In the case we have just considered, we deliberate between the child's desire and what, as responsible for him, we think he should be allowed to do. There is then that pause before the issue of our imperative in which we decide and are conscious of deciding between these alternatives. But the imperative often issues from us so suddenly that there is no sufficient interval in which the conscious judgment of how we are going to act can be formulated. A sudden want or desire rises in the mind, and we call upon a servant to fulfil it. The pull of the bell is an imperative, as much as our express order; and, as so frequently in involuntary action, no doubt or question intervenes, still less a judgment which answers the question. There is a single desire culminating at once in an imperative; as in our simple categorical volitions, a single desire culminates in a categorical judgment.

But in the complex type of the imperative, where a voluntary choice ordinarily precedes its command and is defined in a judgment, does the imperative lapse from a volition and become something else? The volition may precede the imperative, but is not annulled. It is changed, but persists. It is first embodied in a judgment, afterwards in an imperative. In the same way a hypothetical volition often passes into a categorical. "If you are there I shall make a point of seeing you." "But I shall be there." "Then I certainly will see you." In this *volitional syllogism*, as it might be called, the hypothetical volition of the major premiss is transformed into the categorical

volition of the conclusion through the judgment of the minor premiss.

We have seen will disengage itself from one form of judgment after another, and in our present type, it seems to throw aside every form of judgment and the definitions by which we have bound it to the judgment and to assume the distinctive form of an imperative.

But is the imperative a distinctive form, an "ultimate category"? Is its attitude as unique as negative thought, as the categorical, disjunctive and hypothetical judgments? Is its uniqueness, like theirs, not due to the combination of any constituents which we can specify? Does it belong to those products of mental life which consist in new groupings and complications of constituents present in other and previously subsisting groups, or to those products which consist in a new differentiation of such constituents? In the one case it is analysable in respect of that which is distinctive of it; in the other it is not.

There is one explanation of the imperative which readily suggests itself. When we say, "Do this," we may mean, "If you refuse, you will be punished". Is the imperative in reality a hypothetical judgment disguised in a unique grammatical form? We often supplement it by such a judgment where we anticipate that it will not act as an adequate motive without. And we can explain the influence which it exercises over us by the many painful consequences which, in childhood and youth, have followed disobedience to our superiors. But our question is one of analysis, not of genesis. We have to ask what the imperative means to the person who uses it, not how it has become a motive for the person to whom it is addressed; and where we anticipate no disobedience we neither say nor think, "If you do not do this, I will punish you," or "I shall be offended". This hypothetical judgment is something additional to the command, and which may or may not be added to it. And further, such hypothetical propositions essentially express a condition and its consequence, not a command that the person spoken to shall so act that the consequence shall not become due. The command is indirectly conveyed to him by the tone of your voice, the expression of your features, and perhaps by his knowledge that you will be pained by his disobedience and the necessity of punishing him. But a vicious schoolmaster might enjoy the prospect of a boy's disobedience that he might have the pleasure of flogging him; and his hypothetical proposition, though interpreted by the boy as an imperative, might contain no real

imperative volition, but its essential meaning of a condition and its consequence, and an ardent hope that the condition might become fact. In this case we can hardly suppose there were any real imperative in the schoolmaster's thought. And so a despot may say, addressing a rebellious subject, "If you do not submit, I shall forfeit your estates". And being confident of success, he may neither will nor desire his submission, because he covets his property.

Now the interesting point in these examples is that while they are not mere judgments, but genuine hypothetical volitions, they are not imperative volitions; they therefore demonstrate the distinctiveness of these two types of will. In the schoolmaster's mind there is a resolution to punish the boy in the event of his misconduct, and in the despot's, in a similar event, to seize his subject's estates. Both hope the event may occur in order to enforce its consequence. Both simulate an imperative attitude; but, through their hope of the event, in neither is there an imperative volition forbidding it.

We may next attempt to resolve the imperative into the disjunctive judgment, "You will do this or take the consequences". Here, as in the previous case, we must make the answer that this disjunctive judgment, though it sometimes supplement an imperative, is not its essential meaning; and is often neither spoken nor thought of. And again, the intention may be to inflict the punishment, and the alternative to it which is put forward may be chosen because we are sure it will be rejected, and will therefore of a certainty promote the end of our real volition.

We may make a more successful attempt than either of the foregoing to resolve the imperative into the categorical judgment, "You will do this". And here, as in the case of the imperative itself, the proposition is full of ambiguity. Like the imperative mood it may mean no more than a desire or entreaty, as where we emphasise the word "will"; or again, it may express a question. But where it means Will, it seems to be the same volition as the imperative. Thus, I may say to a man, "You will go to this place, and on arriving there you will leave this letter, and you will bring back the answer to it"; and the same volition, with no substantial alteration of its meaning, may be expressed in the imperative, "Go to this place, leave this letter, and bring back the answer to it". There is more emphasis in the imperative, and the emphasis is laid on the volition, while in the proposition there is rather a clear and certain anticipation of the future event, and the volition sinks into the background.

There is sometimes an overpowering assurance about "You will do this;" a cool, deliberate determination, so different from the abrupt "Do this," where it springs impulsively, suggests a threat and hides a suspicion of failure. But a more striking difference remains to be pointed out. In "You will do this"—leave this letter and bring back the answer—there is always a clear anticipation of a future event, but this anticipation like others may be mistaken. The man may do something else or refuse. In other words, "You will do this," is a judgment referring to a future event: "Do this," is a command referring to a future event. The judgment is either true or false: the command is neither true nor false. It is not shown to be false or mistaken, like the judgment, when the event referred to is not accomplished; nor does it become true, like the judgment, when it is. The failure of the judgment is error, a mistake in its conjecture; the failure of the imperative is a thwarted purpose.

But we are not yet at the bottom of the difficulty. The judgment, "You will do this," may, as we have seen, be more than a judgment; it may also contain a volition: in the same way as the imperative may also imply an anticipation or judgment. In that case the judgment, "You will do this," means, "I command you to do it, therefore you will do it". The anticipation or judgment of the future event is the consequence of the implied command or imperative. And similarly, when we give a command and are also conscious of anticipating its accomplishment, this judgment only arises because we are conscious that the command has been given.

This implication of a command in the judgment, "You will do this," comes out more clearly if we substitute the word 'shall' for 'will'. There can then be no mistake about the presence of volition. But it carries also the meaning that this imperative has been already partially thwarted or that at least there are clear signs of disobedience, as when a nurse having repeatedly used the imperative, "Sit still," to a restless child without the required result, clenches it in the judgment, "You shall sit still," and thumps it down on the seat. "You shall do it," means, "I will make you do it, and having ordered you to, will use physical force to compel obedience".

We have seen that in these alternative phrases which we may use instead of the imperative mood, though not without a certain alteration of our meaning, the categorical judgment, which they prominently express, still carries with it more or less clearly the imperative as its basis; and that by

the discovery of these alternative phrases, so far from having resolved the imperative into a categorical judgment, it persists as the indispensable basis of that judgment.

From our failure to analyse the imperative as will, we infer that, like negation and the types of judgment, like the distinction between pleasure and pain, and the distinctive varieties of sensation, it is a differentiation of thought, or more correctly of thought and will, of which we may perhaps furnish a genetic, but never an analytic explanation.

VII.—Desire and Will.

In all volitions, according to the common opinion of psychologists, we either desire their immediate result or some remoter consequence. But our situation may be so desperate that, instead of a choice between desires, we have only a choice between aversions. A woman may have to choose between death and dishonour. A man suffering from an incurable disease may prefer the alternative of suicide; and a condemned man has sometimes been permitted to select the manner of his death. He may have an aversion to death in every form; and if we take aversion to mean desire to escape from an object, he has several such desires. He desires to escape from death altogether, and each death, as he imagines it, he shrinks from. But a power that heeds not his desires holds him fast. Powerless and despairing, he cannot will to escape from it. There is no good that he can choose; he can only avoid the greater evil. Some death appears to him less horrible than others. His aversion to it is less strong, and he perforce selects it.

In this type, there is a volition present and even a rational choice; but can we find any desire for the death selected? We may say that the motive which determines the man's choice is desire to escape the greater evil. He sees a course that offers him escape. He therefore desires to follow that course. But this argument is based on a false simplification of his state of mind. Desire may indeed be present in the state anteceding his volition; but at the moment of will it is transformed into aversion. He desires to escape the greater evil: he desires also to escape the less; and the course which he represents as an escape from the greater is that which leads directly to the less. Were it not for the less, he would desire to follow this course; but the presence of this evil at the end of it transforms desire into aversion. Were it not for the greater evil at the opposite end, he would desire to retrace his steps; but the presence of this greater

evil again transforms desire into aversion. There he stands between these opposite goals, hemmed in in a course that inevitably leads from one to the other, with a simultaneous aversion for both ; and shrinking to the last he is pushed forward to the one goal by the greater horror behind him.

While in the common types of volition there is desire to do what we will to do, either for itself or some ulterior consequence, here there is desire not to do what we will to do, and desire that death, the ultimate consequence of our action, may not be realised. It is the extreme opposite of the type which psychologists[1] have described as universal, and admitting of no exceptions. And we can conceive of a third that occupies an intermediate position between these extremes. Volition may stand in three typical relations to desire : (1) we may will to do what we desire to do ; (2) we may will to do what we desire to escape from doing ; (3) we may will to do what we have no desire of doing. In other words, we may feel either desire or aversion for what we are going to do, or, conceivably, neither one nor the other.

There is another type familiar to those who have an experience of self-sacrifice, in which the sacrifice of one of ourselves is undertaken, not in a mood of warm and exalted emotion, but in the calm, austere spirit of the northern Teutonic races, where duty, for duty's sake, ordains the sacrifice. It is "a dreary resignation," "a desolate and acrid sort of act, an excursion into a lonesome moral wilderness".[2] Do you think that at the moment at which you were to resolve to go out into this "wilderness," you would feel any desire to be there? Do you think that in the heart-rending struggle which precedes, you would be led to such a self-sacrifice by the pleasant impulse of desire? Of course, we know that a soul so high-strung loves duty, and desires to follow it. But where is the love, and where the desire, at the moment of a great surrender? The end is still desirable, but does desire occur as a psychical fact? The end is desirable ; it is an end we ought to desire ; it has moral value ; we do desire it at other times ; nay, more, were only the burden of this sacrifice lifted, we should desire it anew. But as when a youth is in love, his favourite occupations and the books in which he took delight, delight him no more, and his intellectual ambition is under an eclipse, because all the desire of his being is absorbed into the system of this over-

[1] Mr. Bradley is an exception : see his "Pleasure, Pain, Desire and Volition," MIND, xiii.

[2] William James, *Prin. of Psy.*, vol. ii., p. 634.

mastering passion ; so when, at the call of duty, we sacrifice what we most love, the passionate desire of love effaces the pale intellectual desire of duty.

In this type, desire is no longer present as a motive to the will. There is desire for the end that we sacrifice, not for the end we accept. And we can quite well explain the motive which influences this choice without supposing it to be formed of an actual present desire. The austere love of duty, the calm but often steady desires that subserve it, explain the formation of a habit of acting in harmony with its dictates ; and this habit, where a sufficient interval occurs before action, is ordinarily reinforced by desire. Only when an intense desire competes with it, is it effaced for the time. Then the "feeling-tone" of the sentiment of duty is effaced, and the mental system which it qualifies becomes a dry mental fact. But it does not cease to be a motive ; its conation is diminished, but not destroyed. It still strives to exclude those ideas of action that are incompatible with it ; it thwarts the contrary desire. The habit of our past lives stands by us. It maintains these ideas within the focus of attention, so that passion cannot exclude them, or blind us to their true character. And they persist as an alternative motive to the will, unloved, undesired at the moment though they be. And the loss of their affective side, that side which affects us with pleasure and desire, is not anything exceptional. It seems to be a general psychological truth that only opposite desires nearly balanced in point of intensity can both be felt together. When one is calm and intellectual, and the other has reached the intensity of passion, the first disappears. But when the state of indecision is prolonged, amid the fluctuations of intensity of the contrary desire, the first may find an opportunity, and be reinstated. But at the moment we make those calm but steadfast resolves, when at the same moment that we see all the allurements of passion we reject them, then we feel only the desire that we will not to follow and not the desire to follow that we will. And were this not the case, did we in a moment see the beauty of self-sacrifice, and on the impulse achieve it, then we should not feel that terrible effort in our resolution. It would form easily, and, with the subsidence of emotion, as easily, perhaps, be forgotten or repented of.

This effort that we feel in forming a resolution must be carefully distinguished from the effort felt in carrying it into effect. Great undertakings are hard to achieve ; but we will to achieve them in youth with facility. There may be little effort felt in going out into the cold, but the resolve may

cost us much. It is the first and antecedent, not the subsequent effort, that is often witness to the fact that our resolution is contrary to our desire. And yet not always; for where two contrary desires persist, and prolong indecision, we feel often a considerable effort in making any choice between them.

There are, then, three types due to the relation of will to desire: the common type in which desire is the motive selected; the type in which desire is effaced from the motive; the type in which desire is replaced by aversion. The second type is exemplified more frequently than we think. The little words "ought" and "must," with their impalpable meanings, have come to acquire considerable force with civilised men. When the desire opposed to them is not too strong, they are often sufficient of themselves to overcome it. We do little disagreeable things because, as we say, we must. We go to see people that we dislike, we write letters that we hate, because we have to. It is an artificial explanation, sought after in the interests of a theory, to suppose that we always think of the consequences of these disagreeable actions, and that these awaken an actual desire to do them. The idea that we have to do them moves us. We are going to delay no longer, and this idea culminating in the prospective judgment of our action suffices. When we hesitate we are apt to feel aversion, and the third type is exemplified. When we act quickly, through a settled habit, there is no interval sufficient for desire or aversion; we have simply the idea that we *must*, followed sometimes by the judgment that we *will*.

There are two arguments that may still be advanced in support of the usual theory. We may urge that desire is not altogether absent from these cases, only that it is so faint as to pass undetected. But if we cannot sometimes detect it, we cannot verify the theory that it is essential. The theory or hypothesis, while it interprets the common types, finds others which are, to say the least, ambiguous, and rather lend support to an opposite hypothesis. But what shall we say where it is not merely a question of desire being extinguished, concerning which we can always allege that it still flickers, but where it is a question of desire being replaced by the contrary fact of aversion—instead of desire to do the action, desire to escape doing it? And this is sometimes sufficiently intense to be unmistakable. Shall we urge that in the very core of this aversion there is a hidden and contrary desire—that the man who has chosen the death for which he feels the least aversion, also secretly

and unknown to himself in some degree desires this death? Who with an open mind would be convinced by that argument? And we may ask further: Is a desire that is unfelt and unrecognised any longer a desire? For when we desire, we know that we desire; as when we will, we know that we will. Sometimes, indeed, we try to blind ourselves to the fact of desire; but the effort shows that we have first recognised it. An unfelt desire is a blind conation—a tendency only interpretable by its result. But the cases we have considered are not blind conations; we foresee their results, only we feel no desire for them. In our first example, choice lay between two actions which were neither desired nor for most men desirable, their common end, death, being likewise neither desired nor in most men's opinion desirable. In our second example, choice lay between two actions one of which was desired and the other recognised as desirable, but for which there was no actual desire. In the one case we cannot choose anything that we desire: in the other what is desirable but not desired.

The study of the types of will is the indispensable basis of a scientific theory of its essential character. Because such a preliminary study has never been made, or because we have contented ourselves with the portrayal of a few subordinate types, our theories of volition have one after another appeared one-sided and inadequate. A theory formed in unconsciousness of any distinctive type of will, or without a clear insight into its peculiarities, is liable to be overthrown by any one to whom this type is familiar in his own experience. And the more closely the typical forms of will are studied, the more we shall appreciate the difficulty of embracing them in any one supreme type. We have already felt something of this difficulty, as well in pursuing the character of simple as of complex volitions. The general theory of will we can only put forward as a scientific hypothesis for interpreting its distinctive types: and when a new type is brought forward that we have not anticipated we may have to modify our hypothesis. Better evidence than this we cannot pretend to, and the profoundest introspection will not show us the *universal* character of will.

II.—ON THE RELATIONS OF NUMBER AND QUANTITY.[1]

By B. Russell.

I wish, in this paper, to discuss one of the most fundamental questions of mathematical philosophy. On the view we take of this relation must depend our interpretation of the Infinitesimal Calculus and all its consequences—in a word, of all higher mathematics. The very idea of the continuum—an idea which, in philosophy as in mathematics, has become gradually more and more prominent, and has, of late especially, ousted the atomic views which were shared by Hume and Kant—must stand or fall, I think, with the relative justification of quantity in mathematics as against number. It will not be necessary, however, to deal with mathematical considerations here; it will be sufficient to consider number and quantity in their purely logical aspects. I shall use quantity, always, as equivalent to *continuous* quantity, and I shall endeavour, in the course of the paper, to make clear the meaning of the word continuous.

My argument will be as follows: First, I shall discuss number, and show that its extensions beyond the positive integers result from a gradual absorption of the properties of the unit, and give a gradually diminishing information as to the whole. Then I shall discuss the application of number to continua, and shall endeavour to show that number *per se* gives no information as to quantity, but only comparison with an already quantitative unit. It will appear, therefore, that quantity must be sought in an analysis of the unit. Assuming quantity to be an intrinsic property of quantities, I shall discuss two hypotheses. The first regards quantity as an irreducible category, the second regards it as an immediate sense-datum. On the first hypothesis, we shall see that extensive quantities are rendered contradictory by their divisibility, and must be taken as really indivisible, and so

[1] Read before the Aristotelian Society.

intensive. But intensive quantity too, it will appear, must, if it be an intrinsic property of intensive quantities, be also a mere relation between them. The hypothesis that quantity is a category giving an intrinsic property will therefore have to be rejected. The hypothesis that quantity is a datum in sense will also be found to lead to contradictions. We shall be forced, therefore, to reject the view that quantity is an intrinsic property of quantities. We shall regard it, instead, as a category of comparison; there is no common property, we shall say, among things that can be treated quantitatively, except what is involved in the extraneous property that there are other qualitatively similar things with which they can be quantitatively compared. This will turn quantity into measure, in the broadest sense, and with this, I think, our previous difficulties will cease. But at the same time, every connexion with number will cease—quantity or measure, we shall say, is a wholly independent conception of comparison. But a discussion of the kind of comparison involved in measure will bring back our previous difficulties in a new form; we shall find that the terms compared, though we no longer regard them as quantitative, are infected with contradictions similar to those which, in the first part of the paper, will have belonged to quantity itself. I shall conclude that quantity is only applicable to classes of actual and possible immediate data, and not to any fully understood material.

In the ordinary procedure of mathematics, quantity appears as a limit in the extension of number. Let us therefore examine, to begin with, how far this view of quantity is tenable.

Number, throughout the following discussion, will be used only of discreta; it will be taken as always the result, not of comparison as to the more or less, but of acts of synthesis (or analysis) of things whose qualitative or quantitative differences are disregarded. *Pure* number will denote the merely formal result of acts of synthesis, so far as any result can be known in total abstraction from the matter synthesised and from the specific qualities of the objects of the synthesis. Since a *unit* must be defined by some quality, pure number will thus have no reference to a unit, or rather its unit is the abstract object of any act of attention, of whatever kind this may be. Such an operation can only give rise to the natural numbers, the series of positive integers. Fractions, negative numbers and imaginary numbers, I shall speak of as *qualified* numbers, for here we have always some more explicit reference to the specific qualities of the unit. Such numbers, unlike the positive integers,

absorb, into an apparently numerical expression, some properties which the unit does not share with all thinkable contents. In order that a fraction with any given denominator may be applicable to a collection of objects, these objects must be capable of division into parts equal in number to the denominator. If they are not so divisible, the fraction cannot be applied to these objects. For example, a fractional number of pounds sterling has a meaning if the denominator is a factor of 960, which is the number of farthings in a pound. If the denominator is not a factor of 960, the fraction—neglecting foreign currencies—cannot be taken with arithmetical strictness, but only to the nearest farthing. Thus a fraction whose denominator is n only has meaning when applied to a unit which is itself divisible into n smaller units.[1] From this we derive the important result, that the graduated infinite series of fractions, called the number continuum, has meaning only when applied to a matter divisible *ad lib.* No fraction has meaning, for example, when applied to human beings. The same is true of negative numbers. The minus sign does not apply to the number, but to the nature of the unit, which is regarded as the opposite of some unit previously fixed, *i.e.*, as neutralising the previous unit when synthesised with it. Thus a debt and an asset neutralise one another: hence a debt may be represented as a negative asset, and *vice versâ*. But a negative number only has meaning in relation to a matter which is capable of having an opposite, and thus implies always a certain property of the unit. Imaginary numbers may be similarly explained. Like the symbol of negative numbers, the symbol of imaginary numbers, $\sqrt{-1}$, is not to be regarded as itself a number, nor yet a quantity, but simply as expressing a qualitative relation of our new unit to some unit previously fixed. This relation is such that, when A is so related to B, and B to C, then A is the opposite of C in the sense explained in dealing with negative numbers. In this case, B is said to be $\sqrt{-1} \times A$. Thus if our original unit be a foot towards the East, $\sqrt{-1}$ multiplied by our original unit will give a foot towards the North, which is a new and qualitatively different unit. Hence the so-called imaginary numbers are capable of application, but they agree with fractions and negative numbers in that they are not applicable, like pure number, to *any* thinkable con-

[1] *Cf.* Ehrenfels, *Zur Philosophie der Mathematik; Vierteljahrsschrift für wiss. Phil.*, xv., pp. 308-9.

tent, but only to objects having a certain property. This property is more complex than that required for negative numbers and fractions, but equally possible.[1] Thus throughout the extensions of number, the truly numerical element is nothing but the positive integers—everything else arises from abandoning that complete indifference to the properties of the unit in which pure number consists. So far, however, the properties implied remain perfectly abstract, and our object, being still posited exclusively by thought, is still subject to the laws of thought alone.

Throughout this abstract development of number, the unit has become gradually more important and explicit. When it is quite explicit, we get a third kind of number, which, outside our arithmetic books, is alone of importance. This third kind I shall call *applied* number. In this, there is a reference to a definite unit, and the applied number is always to be regarded as the product of the corresponding pure number with the unit in question. Here we find the justification, in the properties of particular units, for the extension of numbers beyond the positive integers. The unit is some concept, and the number is formed by instances of the concept. Numeration can, of course, be applied to concrete things only by abstraction, for no concrete thing is *merely* an instance of a concept—no man in a set of statistics, for example, is a mere man. But for us here, the important point is that the result, even in its abstraction, can only pretend to accuracy where nature gives a unit of some sort; where our concept, in other words, finds its extension in a ready-made series. But in most of the applications of number, this is not the case. The matter to which number is to be applied, wherever this consists of sense-data as opposed to conceptions, contains no ready-made divisions, but has to be divided artificially in order to manufacture a unit. Any portion of such a matter is called a *quantity*. The result of applying number to this quantity I call *magnitude*, and the operation of applying number I call *numerical measurement*;[2] the matter itself is a *continuum*.

But to what extent does number give us information in

[1] It is important to observe that irrational numbers do not appear in this development. They arise only in connexion with quantity, and cannot be validly treated by Arithmetic, since their relation to the unit cannot be expressed conceptually.

[2] I shall generally use *measure* to denote only comparison as to the more or less.

such a case? For the ideal application of number, we require concepts embodied in a series of really diverse instances. Everything relevant must be supposed known about the instances before numeration begins, for this gives no fresh information as to any of them. The only connexion between them implied in numeration is the purely formal connexion involved in their being thought of simultaneously, and there is therefore only a purely formal reaction of the numerical whole on the instances which constitute it. But though no information is derived, by counting, as to the instances, complete information is derived as to the whole, since the numerical whole is nothing but the mere aggregate of the instances. In order, however, that information as to the whole may result from numeration, the instances must be definite and distinct. The ideal, for number, would be Leibnitzian independent monads. As soon as our unit ceases to be definite, and ceases to be known independently of all numerical considerations, counting ceases to give definite information. To be told that a town consists of 10,000 souls is real information, for a soul is a natural unit, concerning which most of us profess considerable knowledge; but to be told that a foot consists of twelve inches is no information, for a man might study space for ever without discovering the inch as a natural unit.

Number, in short, demands a unit not itself numerical, a unit to whose nature number is wholly external. We require a subject-matter with real divisions. Where there are several ways of making these divisions, as *e.g.* into pounds and shillings, the number to be applied begins to be arbitrary, and to give only incomplete information as to the whole. Where the divisions are wholly fictitious, as with continua, the number is wholly arbitrary, and the information it gives is *nil*. Number is now only available for *measurement*, *i.e.*, for comparison of one quantity with another. The unit of measurement, the inch or the foot, is already a quantity. Comparison with another quantity, therefore, which is all that number can effect, involves, if taken as exhausting the nature of quantity, an obvious vicious circle. Quantity must be investigated—so it would seem—by analysis of the unit itself; it must be an intrinsic property of our arbitrary unit, and not a particular or extreme case of number. From this conclusion, if quantity is to have any meaning, there would seem to be no escape.

But if we adopt this view, new obstacles, no less formidable than those which led us to declare quantity independent of number, bar our further progress. Quantity, we have

said, is an intrinsic property of our arbitrary unit. If so we ought to be able to say something, as regards the quantity of our unit, which shall not consist merely in comparison with another quantity. But this, so far as I can see, we are unable to do. As soon as we begin to make judgments about quantity, they are always judgments of comparison—the vaguest possible judgments of quantity are: "This is greater (or smaller) than that". We seem thus to be landed in an antinomy. Though every judgment of quantity is necessarily a comparison, the essence of quantity must not lie in comparison, but in the terms compared. In other words, quantities have an intrinsic nature, but this consists wholly in difference from something else.

Our difficulty may be illustrated by the ordinary definition of quantity, as that which can be increased or diminished. Since increase and diminution are themselves quantitative, this definition involves a vicious circle. But it suggests, as Hegel points out, an important characteristic of quantity. Quantity may be altered without producing any other change in the thing whose quantity is altered. This will give us some guidance as to the sort of things which can be regarded as quantitative. It explains why quantity appears as a purely extrinsic determination. For it places the whole essence of a quantity in being different from other quantities: by a quantitative change, a thing is changed in nothing except quantity, and quantity cannot, therefore, be defined by reference to the nature of the quantitative thing, since this nature, apart from quantity, is unaffected by a quantitative change. In this extrinsic reference, quantity is on a par with space. The whole essence of one part of space is to be external to another part, just as the whole essence of one quantity is to differ from some other quantity. This explains why space is quantity *par excellence*, and why all other quantities have to be reduced to spatial equivalents before they can be quantitatively treated. But just as the extrinsic reference of space leads to an antinomy which shows it to be mere relativity, so the extrinsic reference of quantity leads to an antinomy which forces us, it would seem, to abandon the position that quantity is an intrinsic property of quantitative things.

But if we abandon this position, what are we to say of the terms of quantitative comparison? We can no longer say, apparently, that quantitative comparison compares quantities, or that measurement is measurement of quantities. Two ways of escape suggest themselves, by which we can endeavour to rescue the intrinsic nature of quantity.

We may say, with M. Couturat,[1] that quantity is a wholly independent category, of which, just because it is a category, no account can be given in terms of other categories. Or we may say that quantity is an immediate datum in sense, which, like colours and sounds, can be indicated but not described. I shall discuss these two views successively.

Taking the view that quantity is an independent category, we shall say: Quantity is distinct from and independent of quality; its changes do not produce changes of quality, and it must be taken as immediately apprehended, without reduction to other terms. When we are given a foot-rule, we apprehend its quantity (length) along with it. All we can say of this quantity, beyond mere apprehension, consists, it is true, of comparison with other quantities. But this no longer constitutes an antinomy, since the quantity, *ex hypothesi*, is an irreducible property of our foot-rule.

Let us seek, on this basis, for a characterisation of quantity. This will have to proceed entirely from the nature of quantitative comparison, since we have admitted that, apart from comparison, there is nothing to be said about quantity except that it is quantitative.

We have, at the outset, a fundamental division of quantities into two kinds, extensive and intensive, according as a change of quantity is, or is not, a quantity of the same kind as the quantity changed. A change of length is itself a length, but a change of temperature or illumination is not itself hot or bright. Of these two kinds, extensive quantity is the more important, and I shall consider it first.

A quantity is extensive when a change in it is a quantity of the same kind. From this definition we can, I think, construct all the ordinary properties of extensive quantity. In the first place, we have addition (and subtraction). The original quantity, together with its change, is equal to the final quantity. When two quantities together are thus equal to a third, each of the two is said to be a part of the third. Thus an extensive quantity is always susceptible of division into extensive quantities, which are therefore in turn so divisible. This gives infinite divisibility. Again, since quantities may be increased as well as diminished, any extensive quantity may be regarded as part of a larger extensive quantity, and so on *ad infinitum*. This gives infinite quantity, as the negation of a limit to the growth of quantity. Again, by definition, all quantities of a kind are qualitatively alike; therefore our collection of quantities

[1] *De l'Infini Mathématique*, Paris, Alcan, 1896, *passim*.

is homogeneous. Since all extensive quantities may be regarded as parts of larger extensive quantities, this means that the whole collection may be regarded as parts of an infinite whole out of which they are divided. It is to be observed that all these properties belong to space and time. I have now to prove that extensive quantity contains a contradiction which is precisely the same as that contained in space and time, the contradiction, namely, of being at once a relation or adjective and more than a mere relation or adjective.

A change of extensive quantity, we said, is itself an extensive quantity. But a change is an adjective of the thing changed, which must be supposed to preserve its identity throughout the change. Hence, *either* the original quantity was not a mere adjective, but to some extent a thing, capable of varying determinations without loss of identity; to this alternative there are tw oobjections—first, the change of extensive quantity is a mere adjective of the original quantity, with which it is thus not homogeneous, and second, the original quantity, though *merely* a quantity, is capable of preserving its identity while becoming *merely* another quantity, which is absurd. *Or* the original and subsequent quantities, and the change of quantity, are all adjectives of something distinct from them; but in this case, it becomes absurd to speak of dividing quantities—parts of an adjective are meaningless. Thus extensive quantity is an adjective, because it is homogeneous with a change, which is necessarily adjectival; but it is not a mere adjective, because it can be divided and has parts. Precisely the same antinomy may be derived, as is more commonly done, from infinite divisibility. For since any extensive quantity is divisible, it is possessed of some thinghood; since it has parts, it is a complex thing; now any complex thing must be composed of simple things; but this composition out of simple things is precisely what infinite divisibility denies.

An extensive quantity must, therefore, it would seem, be a hypostatised adjective or relation. When we cease to hypostatise it, it becomes intensive—its divisibility ceases, and a change of quantity is no longer homogeneous with the quantity changed. This brings us to the consideration of the second kind of quantity, the intensive.

At this point, it will be well to consider briefly the fundamental similarity and difference between the ideas of number and quantity. Both depend, to begin with, upon the application of the same conception to different contents. In

number, the conception may be any we please, and the contents to which it is applied are regarded as only numerically, not conceptually, different. They are collected into a whole of precisely similar contents, and comparison plays only the preliminary part of showing the same conception to be applicable to all the contents. In quantity, the common conception must, as we have just seen, be some quality, adjective, or relation—things as such are not susceptible of quantitative treatment. Moreover, while number depends upon the conceptual identity of the contents numbered, quantity depends essentially upon their differences. A collection of quantities of the same kind, while they must be identical in quality, must also be susceptible of differences of quantity, and it is precisely these differences which are relevant. But with intensive quantities, which we are at present considering, these differences of quantity are not themselves quantities. The difference between two intensive quantities, in fact, differs from each as much as the difference between two horses differs from a horse. With this, it will be seen, we have lost the last possibility of numerical treatment: extensive quantities could be divided into parts, which could be counted, but intensive quantities cannot be numerically measured in any way. What, then, can we say about such quantities, and how are they to be treated?[1]

Since intensive quantities are not divisible or numerically measurable, the quantitative changes in qualities which have intensive quantity cannot be submitted to any objective test, but must be judged by immediate comparison of sensations. Where changes of sensation are found empirically to be correlated with changes of some extensive quantity, we may agree conventionally, as we do with the thermometer, to take the magnitude of this correlated extensive quantity as measuring the magnitude of our intensive quantity. But such an agreement can never be more than a convention, and the apparent objectivity which results is fictitious and merely convenient. All that we really have to go upon is the immediate apprehension of a change, as revealed by subjective comparison. This explains why intensive quantity, if it is a category at all, is mainly a psychological category.

To fix our ideas, let us, since intensive quantity appears to be really a matter for Psychology, take pleasure as the

[1] On the subject of intensive quantity, compare Sigwart's *Logic*, vol. ii., § 70.

type for our discussion. Pleasure is unrelated with any extensive quantity—unless it were the coinage—it is wholly subjective, and it is commonly regarded as a quantity. It has, therefore, every characteristic required for a type of intensive quantity.

A measure of pleasures, as Hedonists have to acknowledge, is unattainable. A sum of pleasures, as their opponents have urged, is not itself a pleasure. Similarly a difference of pleasures is not a pleasure, and a "balance of pleasures over pains" is unmeaning. All these are properties of intensive quantities generally, and reveal the fundamental impossibility of a Calculus of intensive quantities. For a strict Hedonist, the problem of weighing two small pleasures against one big one ought to be meaningless, since an aggregate of two pleasures does not form a single quantity of pleasure.

But, further, if we take quantity as a category, applicable to single quantities, there is, if I am not mistaken, a contradiction in the idea of intensive quantity. Intensive quantity, while it must be regarded as belonging, in different measures, to the separate terms of a quantitative comparison, must also be a mere relation between those terms, and thus in its essence ratio, or, in the looser sense, measure. The measurement of intensive quantities is only possible as to the more or less, and is effected, not by any objective or scientific test, but by immediate subjective comparison. The kind of comparison involved can only be indicated, not described, and the possibility of exhausting the differences of two quantities by this kind of comparison is what constitutes them quantities of the same kind. Now two intensive quantities of the same kind, in all the conceptual properties which can be assigned to either alone, are completely identical; the difference of quantity, therefore, is a difference in a property which appears not to exist before comparison. To return to our former example: suppose we have two pleasures which, so far as they are quantitative, are both abstract or mere pleasure. Then *quâ* mere pleasure, the two are conceptually identical; the quantity of either is not a thing describable *per se*, but is simply and solely that which makes one pleasure greater than the other. This would seem to reduce intensive quantity to a relation between two terms, and yet, in asserting that one term is greater than another, we definitely assert—so we agreed at the beginning of this discussion—that each separately has a quantity.

It is impossible, therefore, if quantity be an intrinsic property of quantitative things, to content ourselves with the

view that quantity is an independent category. Both in extensive and in intensive quantity, this view leads to hopeless contradictions. It remains to adopt the other view, that quantity is an immediate sense-datum, irreducible, like colour or sound, to conceptual terms. To this view too, I fear, we shall find fatal objections.

What, to begin with, does quantity mean on our present hypothesis? We have a series of distinguishable psychical states, all having a certain aspect which we call by a certain name. But among the instances of this aspect, comparison discovers differences—differences which, though they exist between the instances of one conception, cannot be used, like the differences between species of the same genus, for the formation of fresh and more specialised conceptions. We are brought back, in fact, to immediate sensible apprehension: just as the difference between red and green remains for ever indescribable in conceptual terms, so the difference between two quantities of the same kind seems irreducible and ultimate. We seem at last to have reached quantity pure and simple, which was not attainable as the limit of arithmetical development, nor yet as an intrinsic conceptual property of quantitative things. Nothing can be said of quantity, in our present sense, except that we have series of sensations, feelings and emotions, which, while they are so similar that we apply the same name to all, can yet, by means of this one irreducible aspect of intensity, be arranged in a graduated scale of greater and less. But with the definite, measurable, objective quantities of mathematics, this purely psychical, non-measurable, indivisible intensity has nothing whatever to do. For mathematics, therefore, such a result is utterly barren.

But there are other reasons for not resting content with this result. M. Poincaré, in a very able article on the mathematical continuum,[1] has satisfactorily proved, I think, that quantity must be conceptual. *Quantities* may undoubtedly be given in sense, but not *quantity*. The reason is this. If quantity be sensational, two quantities which give indistinguishable sensations must be equal. Now the smallest perceptible differences of sensation are finite, so that no ground can exist, if quantity be sensational, for the creation of the continuum. Nevertheless there is ground for the continuum. Suppose we have three sensations

[1] *Revue de Mét. et de Morale*, January, 1893. I take this opportunity of calling attention to the splendid work which this review, and the school it represents, have done on our present question and on the kindred question of Zeno's arguments against motion.

A, B, C, of which A is indistinguishable from B, and B from C, but not A from C. Then on a purely sensational basis we have necessarily

$$A = B,\ B = C,\ A \lesseqgtr C.$$

To avoid this contradiction, we have to assume that B is not equal to A and C, and with this assumption we have abandoned the purely sensational nature of quantity. Immediate comparison remains the ultimate arbiter as to differences of quantity, but it may force thought to assume differences where it cannot discover them itself. The idea of continuous quantity, of the ordered series proceeding by infinitesimal gradations, is thus a product of thought. Quantities may be given in sense, but they become quantity only by an act of thought.

Quantity, then, is conceptual, but is not an intrinsic property of quantitative things. What, under these circumstances, must quantity be?

There remains one possible view, and this I think is the truest. We held that quantity must be intrinsic, because we supposed it to be a common property of quantities. Just as mass is a common property of masses, discoverable by abstraction from their individual peculiarities, so, we held, quantity must be a common property of quantities. This seemed obvious, but I believe it was the source of all our difficulties. Quantity is not a common property of quantitative things, any more than similarity is a common property of similar things. Quantity is a conception of relation, of comparison; it expresses the possibility of a certain kind of comparison with other things. Whether this comparison is possible or not, depends, primarily at any rate, not on the nature of the quantitative thing, but on the possible existence of other things sufficiently similar for quantitative comparison. With this, our previous difficulties cease. A quantity is any content whatever, so soon as this content is capable of a certain kind of comparison with other contents.[1] In *a* quantity, taken in isolation, we cannot discover, therefore, any of the properties of quantity. *A* quantity is really as improper an expression, for things which can be quantitatively compared, as "a likeness" for a photograph. To search for the nature of quantity in analysis of particular quantities, therefore, is as absurd as to search for the nature of likeness in a study of photography.

[1] *Cf.* Bosanquet's *Logic*, vol. i., p. 124.

By this solution, quantity becomes essentially measure—using this word to mean any sort of quantitative comparison.

We may now sum up the preceding argument, and give it a positive form. Seeing that number, as used in measurement, could not exhaust the nature of quantities, we inferred that this nature was to be found by analysis of the unit. But when we analysed the unit, we found that any attempt to give it quantitative attributes led to a contradiction. We now see that this must be so, for the unit, taken in isolation, is not quantitative at all. What is quantitative is only the relation of the unit to a content which differs from it in a certain manner, and only the possibility of such a relation, which is external to the unit, leads us to speak of the unit as a quantity. The truth of quantity, therefore—to use a Hegelian phrase—is measure. We no longer have the contradiction that quantity both is, and is not, a mere relation, for our refusal to regard it as a mere relation was based wholly on the view that it must be an intrinsic property of quantities. We can now see the reason why extensive quantities are more amenable to measurement than intensive quantities. For the definition of extensive quantities is, that a change is homogeneous with the quantity changed. Now extensive quantities—*i.e.* spaces and times—are themselves relations, and may therefore be homogeneous with that relation of difference in which, as we now see, quantity really consists.[1] The terms, being already relations, may be homogeneous with their difference, which is itself a relation. There is also, I think, another reason why the quantitative treatment is felt to be more fundamental in the case of spaces and times. The essential prerequisite for quantity, as we now see, is the existence of a continuum of qualitatively similar objects, for it is this which renders quantitative comparison possible. Now in extensive quantities, the continuum is actually given—not indeed as a definite whole, but as an extent with vanishing boundaries. The continuum is primarily undivided, and remains indifferent to its divisions, which thus appear as bits of it. The assemblage of all possible temperatures or degrees of pleasure is obviously a construction of thought; space and time, on the contrary, seem like "infinite given wholes," of which particular spaces and times are limitations. The continuum required for quantitative treatment is thus more prominent in the case of extensive than in that of intensive quantities—it is given, instead of being a mere construction of thought.

[1] *Cf.* James, *Psychology*, vol. ii., pp. 148-51.

Finally, the reduction of measure to number must, on the view here taken, appear as extraneous and merely convenient. Measure, on our theory, is an independent kind of comparison, yielding judgments of more or less. The reduction of extensive to intensive quantities, at an earlier stage of this paper, still holds good; the two do not differ logically, but only in the manner in which they are given. At most they differ in this, that extensive quantities are relations, while intensive quantities are adjectives. Relations and adjectives alike, however, are indivisible, and the division, on which the application of number is based, is logically a delusion, and due only to our hypostatising space and time. Even so, the application of number to spaces and times rests on equality, which is here a quantitative relation, having no accurate counterpart in number.[1] Quantity or measure, therefore, as the mere more or less, should be put among conceptions of relation, and wholly separated from number. The connexion of quantity with number—so we must conclude—is due partly to motives of convenience, but mainly to a confusion between two fundamentally distinct ways of regarding space and time.

Thus measure removes the contradictions, in the conception of quantity, which appeared in the first part of this paper. To this extent, it is a real advance upon quantity regarded as intrinsic. But it must not be supposed that all contradictions are removed from the conception of measure. The chief difference is, that these contradictions now appear in the properties of terms compared. For although *quantity*, in our present sense, is not a common property of quantities, some common properties are involved. When we investigate these we shall see, I think, that they render measure dependent on the inadequacy of thought to sense, and thus still logically self-contradictory.

Our result so far is as follows: First, we saw that two

[1] It is important to observe that the conception of equality proper does not occur in the treatment of number. Equality does not occur, to begin with, in applied number, for here we have no guarantee of the equality of the units—the fact that the number of two collections is the same is no ground for affirming their equality. Equality therefore, if it occurs in number at all, must occur in pure number. In pure number, however, what we get is not equality, but identity. Thus the numerical measurement of extensive quantities consists of two steps: in the first, which alone is quantitative, we assure ourselves that we have a collection of *equal* quantities; in the second, we count these equal quantities as we might count anything else. The single extensive quantity which results from our counting is thus numerically measured in terms of any one of our original equal quantities.

things which differ quantitatively do not differ conceptually in anything except quantity. Secondly, we saw that quantity is not an inherent conceptual property of quantitative things. From these two propositions it follows that two things which only differ quantitatively do not differ in the conceptions applicable to them. Nevertheless, since we found that quantity is not an immediate sense-datum, we were forced to admit that quantity is a conception, but a conception of comparison. Hence, in a judgment of more or less, we have a conception of difference without a difference of conception. This seems to constitute a contradiction: between two things which are in all points conceptually alike, there ought to be no difference, but complete and entire similarity. From this contradiction, we can derive a definition of the intensive continuum, and of the kind of things to which quantity is applicable.

To begin with, though quantitative comparison is conceptual, the terms compared must have no conceptual differences. They must differ, but not in the conceptions applicable to them. Thus measure must apply, not to conceptions, but to immediate data as such. These are collected by conception into classes, until this process reaches its limit in the *infimæ species* of immediate data. If conception were adequate, all the instances of any *infima species* ought to be precisely similar, but this, it appears, is not the case. Although our instances cannot be conceptually differentiated, comparison still discovers differences among them.[1] We have, however, a conception by which we can express the result of comparison as to their differences, and this conception is measure, *i.e.*, the more or less. By means of measure, the whole bundle of instances can be arranged in an ordered series of increasing or decreasing magnitude. But if thought were adequate to these data, it would apply a different conception to each: to confess that this cannot be done is to confess that the point of difference is unintelligible. Since every content of consciousness is, in one aspect, necessarily an immediate datum, quantity is applicable to every conceivable content, but only *quâ* immediate datum. Thus belief, in Psychology, is subject to quantity, since I may hold a belief with different degrees of conviction; but judgment, in Logic, is not subject to quantity. It must be maintained, therefore, that quantity

[1] This seems to be the point urged by Kant against Mendelssohn's proof of the indestructibility of the soul. Kant regards the soul as an intensive quantity. See *Krit. d. r. V.*, 2nd ed., pp. 413-15.

applies to contents only when they are regarded as immediate data, and applies then only because such data are not fully understood. In this it differs from number, for number can, by abstraction, be applied to a material perfectly understood. While things which can be numbered together must have some conception in common, things which can be measured against each other must have no conception not in common, and yet must differ. This is only possible in a material not wholly mastered by conception. This material, which is the intensive continuum, may therefore be thus defined: An intensive continuum is a collection of data all belonging to one and the same *infima species* of conception, and all therefore conceptually alike, but yet differing in some property which conception has not mastered. The relation of difference is a relation of measure, of more or less, and constitutes the conception of quantity. The necessity of such a conception is a standing reminder of the inadequacy of thought to sense, or, if we prefer it, of the fundamental irrationality of sense.

III.—HEGEL'S TREATMENT OF THE CATEGORIES OF THE SUBJECTIVE NOTION.[1] (II.)

By J. Ellis McTaggart.

Judgment of Subsumption.

Singular Judgment.

All Judgments of Inherence are, as we have said, Singular. The Judgment of Subsumption, which is derived from the Judgment of Inherence, will consequently start as a Singular Judgment. Its outer form will therefore be exactly the same as in the Positive Judgment of Inherence,—for example, "This is red". But the difference is that, in the Judgment of Inherence, the singularity of the Judgment was an essential part of its nature as a Judgment of Inherence. Here, on the other hand, it is merely the form with which we start, which can be modified if it is not found to be a suitable form.

Particular Judgment.

That it is not a suitable form has been already shown, and the increasing definiteness of the ideas only makes the imperfection of the formula more plainly obvious. Again we find an Individual and a Universal, with no possible connexion between them except identity, which identity is impossible by their very definitions. We must pass on. Instead of taking a single Individual, we must take, as the form of Subsumption entitles us to do, several Individuals at once. Thus we reach the Particular Judgment,—"Some roses are red".

It will be noticed that we have done more than increase indefinitely the number of the Individuals. Our Singular Judgment had only one Universal—red. But our Particular Judgment has two—rose and red.

[1] Read before the Aristotelian Society.

How, it may be asked, were we entitled to make this advance? It implies that whenever two or more things have one common quality, they will also have another. Now we are entitled to assume this, because we have seen that you can always find a common quality for any two things if only you go high enough. In the last resort there are qualities common to everything--that they are real, that they have external connexions, and so forth. So, when we have predicated a Universal of any two or more Individuals, however dissimilar in other respects those Individuals may prove to be, we know that some other Universal may always be found, which they have in common, and we shall be enabled to put our assertion in the form Some A are B—where A and B are both universals.

Of course, the higher we have to go for our second universal, the less information we get. "Some judges are corrupt" is a much more interesting and significant proposition than "Some officials are corrupt," and the latter again is an improvement on the more general proposition "Some men are corrupt". But although the importance of the proposition which we can obtain may vary, some proposition of this form will always be true. Every Universal will have more than one Individual under it, and these Individuals can always be stated as coming under yet another Universal.

And this fresh way of stating them is essential. For merely to take a plurality of isolated Individuals instead of a single one, would not solve the problem, but leave it as hopeless as before. The same difficulty would occur about each Individual separately, and the only change would be that it would be repeated many times over. It is not transcended till we have grouped the Individuals under another Universal, and so made the Judgment the expression of the relation between two Universals.

Judgment of Allness.

To make it more definite must be our next step. A Particular Judgment can never be a full account of the facts to be explained. It marks out a class and says that some members have a certain quality, and some have not. This, taken by itself, is to assert of each member of the class the same proposition,—it may or may not have the quality. But this is not the truth. Of some members of the class we must say, if we are to speak the truth, This has the quality; of others we must say This has not the quality. Instead of making the same problematic statement about all of them,

we must make one of two definite statements about each of them.

Now we cannot take them one by one, and, pointing to each in turn, say This has it, This has not it, and so on. For then we should have got back to predicating Universals of mere Individuals as such, and this we have seen already to be inadmissible. Since the Individuals of the subject, then, are not to be taken as Individuals, they must be united by a Universal—there is no other way. And we have just seen that it will not do to unite them by a Universal which covers more Individuals besides them, since this will give only a Particular Judgment. There is only one course left. We must group our Individuals by means of a Subject-Universal which just covers them, so that we can say that wherever the Subject-Universal is found the Predicate-Universal will be found too. In other words, we must be able to make general propositions. We must be able to say All A are B. All the Individuals, of which the predicate can be affirmed, need not indeed be brought under the same Subject-Universal. That would mean that we had discovered an invariable antecedent to B, and could say, not only that All A is B, but that All B is A. This is unnecessary. What we must be able to do is to bring all the Individuals, of which B is predicated, under some Subject-Universal or another, so that, whenever we predicate B, we have some Universal which is invariably accompanied by B.

The advance which is made in this category is evident and striking. Here, for the first time, we become entitled to assert general propositions. That is to say, for the first time science becomes possible. However certainly and clearly it be known that everything stood in relations of reciprocal causality with everything else, and that nothing happened without a cause, this would be insufficient for science. Unless the results of that determination could be expressed in general propositions, so that we can say that some are always or never found in conjunction with others, it would be impossible to classify, to predict, or to explain.

The step is important, and it is one at which the sceptic often stops. He will admit, sometimes, that there really are general qualities—qualities possessed by more than one Individual, but he will deny that there really are any general laws connecting one quality with another. He does not merely assert that the general laws which we have in fact discovered have much that is subjective and erroneous about them, which no one could deny to be true in the present imperfect state of our knowledge. He asserts, further, that

there are no valid and objective laws to be found, that the objective truth lies only in the particular Individuals, that the uniformities we have found, when true, are merely accidental, and that we have no right to assume that they do exist in cases where they have not yet been found.

It may be worth while, therefore, to recapitulate the steps which have led us to our present conclusion. The Individuals of which a certain Universal can be predicated must be either isolated or connected. If they are connected it can only be by a second Universal introduced into the Subject. Now this Subject-Universal may either include other Individuals of which the Predicate-Universal is not true, or it may include only those to which the Predicate-Universal does apply. We have thus three cases. The first gives the Singular Judgment, and that we have seen, in the Judgment of Inherence, to lead to contradictions if we try to take it as an independent and adequate form. The second gives the Particular Judgment, which we have also seen to be inadequate as an independent form, since it only predicates the same uncertainty about all the members of a class, although the truth is that some of them are certainly one thing, and some of them certainly the other. There remains only the third alternative, and this gives what Hegel calls the Judgment of Allness—All things which have the Subject-Universal have the Predicate-Universal.

That it is by the Judgment of Allness we are to escape from our difficulty, if we are to escape from it at all, seems clear, since it is the only alternative left. But can we escape in this way? Does the Judgment of Allness avoid the difficulties which made us surrender successively the Singular and the Particular Judgments?

The defect of the Particular Judgment is obviously removed by it. That defect was that it did not enable us to say definitely of each Individual included in the Subject, whether it did or did not possess the Predicate. But with the Judgment of Allness we can say definitely of each of those Individuals that it does possess the Predicate.

The defect of the Singular Judgment lay, as we have seen, in the fact that the Subject and the Predicate could not be regarded as identical. Nor are they identical in the Judgment of Allness. If we say All lions are mammals, it is true that there are many mammals which are not lions, and that lions have many qualities not shared by the rest of the mammalia. But we have now risen to a point at which it is no longer necessary to identify the Subject and the Predicate. We do not require to say here that the

Subject-Universal and the Predicate-Universal are in any sense identical. Our proposition only means that, wherever the Subject is found, the Predicate will be found also. This relation was not possible in the Singular Judgment, because the Subject there is a mere Individual, and therefore had no significance apart from the Universal, since, as we had previously seen, its whole nature was made up of Universals. It had not enough independence to enter into any relation with the Universal which required it to be in any way distinguished from the Universal. Its relation could only be simple identity—if that can be called a relation—and that was contradictory. Now, on the other hand, the Subject, defined by a Universal, has an independent meaning, and can enter into a different relation with the Predicate. We speak now, not of identity, but of the co-existence of Universals. There is therefore no longer any difficulty in the fact that the two Universals have different connotations and denotations, and thus the Judgment of Allness has vindicated its right to be considered as a synthesis, since it has transcended the defects both of thesis and antithesis.

The result gained may be stated from another point of view —that it is impossible to suppose that the only connexion of the various Universals which are found in any Individual is its mere abstract Individuality, and that the Universals have no connexions among themselves. For the abstract Individuality, as distinct from the Universals, is a mere nonentity, incapable of bearing this, or any other, burden. If the Universals are found together—and that we saw they must be—there must be some ground of connexion between Universals themselves.

In thus transcending Singular and Particular Judgments, we do not, of course, pronounce them to be false, but only inadequate. It may be quite true to say "This is red". What we have gained in this triad is the knowledge that This (whatever it may be) could not be red, unless it belonged to some class of things, defined by some other Universal, of all of which redness might be predicated.

We now leave the Individual for the present. Our Judgment has become a relation between Universals, and the rest of the Subjective Notion is occupied in developing this relation. A certain one-sidedness caused by this will be counterbalanced in the Objective notion and synthesised in the Idea.

Judgment of Necessity.

Categorical Judgment.

The general propositions, such as All A is B, which we reached in the Judgment of Allness, involve the existence of some connexion between the Universals A and B. Such a proposition cannot merely mean that we have enumerated all the Individuals who have the quality A, and, finding out that each of them has the quality B, have summed up our various discoveries. For such Judgments would not be Universal at all. They would be mere collections of Singular Judgments, and therefore, of course, unable to perform their task of transcending the defects of Singular Judgments. Our Judgments of Allness then mean that the possession of the one Universal is connected with the possession of the other, not merely by a uniform accident but by some relation between the Universals which brings it about as a necessity.[1] This brings us to the next triad, which Hegel calls the Judgment of Necessity. The first form of this is the Categorical Judgment. This, as is to be expected, is practically identical with the Judgment of Allness. It only affirms, in so many words, that connexion between the Universals which formed the essence of the Judgment of Allness. This slight increase in explicitness is marked by discarding the form of Subsumption which was still left in the Judgment of Allness. That is, instead of saying "All lions are mammals," we now say "The lion is a mammal". Or again, instead of "All Privy Councillors are styled Right Honourable," we say "The Privy Councillor is styled Right Honourable". The last example may serve to remind us that the Categorical Judgment is not confined to ultimate truths, nor to propositions dealing with what Mill calls Natural Kinds. Any connexion, which can be asserted as always existing between two Universals, can be expressed in a Categorical Judgment.

Hypothetical Judgment.

This is only a more explicit way of putting the connexion between Universals which constitutes the Categorical Judgment. It follows immediately from the Categorical Judgment. If we say "The A is B," this asserts that B is one of

[1] Whether this necessity may not be *based* on a number of Singular Judgments, although it cannot *be* those Judgments, is another question. We shall have to discuss it later on, when we come to deal with the Syllogism of Reflexion.

the qualities of every A. A, of course, has other qualities. Let these other qualities be called X. Then it is at once clear that, if anything is X, it is B. Here we have the Hypothetical Judgment. The advance, such as it is, consists in eliminating the slight suggestion of Subsumption, which remains even in the Categorical Judgment, and so bringing out more clearly the necessary connexion between Universals which is the essence of the Judgment of Necessity.

Disjunctive Judgment.

It is clear that Categorical and Hypothetical Judgments do not admit of simple conversion. It does not follow because all A is B, that all B will be A. It may be so in some cases, but we can never logically advance from the one statement to the other. And we know that in all cases it cannot be so. For if all Judgments were simply convertible a Universal could never be connected by them with any Universal wider than itself. And thus we could never express by Universals the relation between two Individuals which resembled one another in some points but not in others. And since we saw that the nature of Individuals could only be expressed by Universals, this involves that such a relation could not be expressed at all. And, as it has already been shown that every Individual must be like and unlike every other, it follows that it would be impossible by such Judgments to express the nature of Individuals at all.

We know, therefore, that in some of our Judgments of Necessity the Predicate will be wider than the Subject. All A are B, but there are some B which are not A. Now these Individuals which are not A cannot be B as simply isolated Individuals, as was proved above. Each of them must have some Universal, with which B is invariably connected by another Categorical Judgment. How many of these there may be we do not know, but we know that every case of B must have one of them. Thus we arrive at the conclusion, all B is either A, or C, or D, where C and D represent an unknown number of Universals. This is the Disjunctive Judgment.

The view of the universe which results from the establishment of the validity of this category can be stated as follows: The similarities and dissimilarities of Individuals may be expressed by general propositions concerning the relations of Universals of different extent, which are such that the presence of the narrower Universal implies the

presence of the wider, and that the presence of the wider Universal implies the presence of one of a certain number of the narrower.

This, of course, like all the categories to which Hegel has given the names of Judgment and Syllogism, relates to the reality which is the object of knowledge, and not to the mental processes by which we come to know it. The repetition of this may not be unnecessary, since the constant use of the terms of formal logic is apt to confuse the student the moment he is off his guard. In this case the distinction is clear. From the admission that reality is such that it cannot be adequately expressed without Categorical Judgments, it has been easy to deduce that it is such that it cannot be expressed without Disjunctive Judgments. But if our knowledge entitles us to make a Categorical Judgment on any subject, it by no means follows that it will entitle us to make the corresponding Disjunctive. We may know that the lion is a mammal, and be very far from knowing the complete list of species to one of which every mammal must belong.[1]

SYLLOGISM.

Qualitative Syllogism.

Another question now arises, and compels us to enter the third and last division of the Subjective Notion. We have said that two Universals are necessarily connected. How, and by what, is this necessary connexion made? It is a connexion of two Universals which are not identical, for if they were the proposition would be utterly trivial. On what can we base this union in difference?

To the triad in which this point is settled Hegel gives the name of Syllogism. This seems to me an inappropriate term. The first of the three divisions does indeed correspond closely to the Syllogism of Formal Logic. But the second corresponds to Induction, which is not usually called a Syllogism. To the third division the name is still more inappropriate, since in it the necessity of mediation by a third term is, as we shall see, transcended altogether. But, in the absence of a better name, it will perhaps be advisable to retain this one.

The problem which we have now before us is one which

[1] I have omitted Hegel's triad of Judgments of the Notion (see Note C, which, with the other notes of the series, is here omitted for want of space).

might have presented itself at any point in the Judgment of Necessity. For as soon as it was realised that the connexion between the two terms in the Judgment was asserted as necessary, the question as to the ground of that connexion will require an answer. It becomes however more imperative when the Judgment of Necessity has completed its development, and assumed the form of the Disjunctive Judgment. For when we find that B is, in some cases A, in some C, and in some D, the need for a cause of these varied relations becomes more obvious, though not more real, than when we affirmed the uniform relation All A is B.

Now, if we try to answer this question by inserting a middle term between the two Universals, this middle term must either be another Universal or else one or more Individuals. There is no other alternative. As we have already established the fact that there *is* some connexion between Universals, it will be natural to try and avail ourselves of this as the middle term. We connect A with M, and M with B. In this way we should assert that the manner in which Universals were connected was expressed by the ordinary Syllogisms of deductive formal logic. The simplest examples of these are to be found in the mood Barbara—for example, "All men are mortal, all philosophers are men, therefore all philosophers are mortal".

Hegel calls the middle term of the Qualitative Syllogism Particularity.[1] This does not appear to have any very definite connexion with the Particular Notion, as it was described previously. What it seems to signify is that the Universal does not here manifest its true nature (which will become evident in the last subdivision of all), by which it is inherently and ultimately connected with other Universals, but is, on the contrary, regarded as a hard and fast unit, which can only be connected with anything else by external links. But why this should be called Particularity is not obvious.[2]

Syllogism of Reflexion.

To connect two Universals by means of another is often a perfectly legitimate and indispensable process. But if we take this method of connexion as a category, and so claim for it universal validity, we find that it is contradictory. The problem, to solve which it arose, was How can two

[1] *Enc.*, section 182.

[2] Hegel divides the Qualitative Syllogism into the First, Second, and Third figures. But this seems to me to be indefensible (see Note D).

Universals ever be connected? The answer here given is By the connexion of each with a Universal. This answer presupposes the solution of the difficulty it proposes to solve, and is therefore worthless.

And so, if we ever tried to explain anything by this principle, we should be involved in a False Infinite. When—to take our former example—we have connected philosophers and mortality, by using man as a middle term, we should have to find two other middle terms—one to connect philosophers and man, the other to connect man and mortal. When we had found these, four more would be required to connect them with the terms which they were to connect, and thus we should only solve one problem by raising two more, and so on for ever.

If a Universal will not serve as the middle term, there is only one alternative left, if we are to have a middle term at all—the Individual. With the attempt to make the Individual the middle term we reach what Hegel calls the Syllogism of Reflexion.[1] We have already seen that it is impossible that the Universal Judgment should be *equivalent* to a series of Judgments about mere Individuals. We have now to consider whether the Universal Judgment can be *based* upon such a series.

Laws of Nature.

Categorical Laws.

To do this is impossible. We saw, in dealing with the Judgments of Inherence and Subsumption, that a Judgment about an Individual could only be valid when it was dependent upon a Universal Judgment, and that an Individual Judgment taken by itself is contradictory and inadequate. Since all Individual Judgments must be based upon Universal Judgments, it is obviously out of the question that all Universal Judgments should be based upon Individual Judgments.

What is to be done now? We have reached the conclusion that to demand the mediation of all Universal Judgments is useless. Whether we attempt to mediate, then, by Universals or by Individuals, we find that insuperable difficulties present themselves. Only one alternative remains—to deny the necessity of mediation, at least as a universal requirement.

In this way alone shall we be able to escape from our

[1] This also is divided by Hegel into three subdivisions (see Note E).

difficulties. We are led to the conclusion that there exist certain laws—certain conjunctions of Universals which do not require explanation, but are themselves the basis from which everything else can be explained. These ultimately valid Judgments I should propose to call Laws of Nature.[1]

Not all Judgments of Necessity are Laws of Nature. Many of them are merely subordinate and derivative, and can be deduced from others. But the existence of those Judgments which are not Laws of Nature is only possible on the supposition that there are others which are Laws of Nature, and from which the subordinate Judgments can be deduced.

Nor, again, is it meant that we can know these Laws of Nature *a priori*. We know *a priori* by the dialectic that there must be such laws, and that all Universal Judgments must be deducible from them. But what they are can only be known to us empirically and by induction, and so can never be known with absolute certainty. This of course does not make the existence of the category any less certain *a priori*. This point is important, as Hegel's assertion, that we know *a priori* that there are such Laws, seems sometimes to have led to the impression that he supposed that we could deduce the Laws themselves by pure thought. The real state of the case may be illustrated by the lower categories. The category of Quantum tells us that everything must have a definite magnitude. This is certain *a priori*, although we can never find out the magnitude of any particular thing except by an empirical process of measuring, into which it is always possible that some small inaccuracy has crept.

Our result is, then, that there exist certain laws in the universe which are not merely analytic, which are not deducible from others, and which are not mere generalisations from instances, although they can only become known to us by generalisation from instances. The first two points would, I suppose, be almost universally admitted. Few people would be disposed to deny that it is impossible that every truth should rest on another without any being ultimate. And, in the present day at least, it would be generally allowed that it is impossible to reduce all our knowledge to merely analytic propositions.

But it is sometimes asserted that general laws have no objective validity at all. All that is really objective, it is said, is the various Individuals, together with the qualities which

[1] See Mill's *Logic*, book iii., chap. iv., section 1. For Hegel's nomenclature in this triad see Note F.

render them like or unlike one another. If we find two qualities together in several cases, we have a tendency to expect one whenever we see the other, and we find that this tendency, when we take certain precautions, is so often right as to be of great assistance to us. Indeed life would be impossible except for it. But the general propositions thus formed are mere creations of our minds, and have nothing corresponding to them in the objective world, which consists of nothing but particular facts.

We have seen that this view is untenable, since it involves the ultimate validity of Judgments dealing with Individuals as such. But it may be worth while to consider it from another standpoint and to show that the process of Induction cannot lead to any valid conclusions whatever, except on the hypothesis that some Universal Judgments have objective validity, and that the purpose of Induction is to discover, and not to create, those Judgments.

All Induction can be reduced to this typical formula, This is A and B, that is A, therefore that is B. All the elaborate devices of science are based on this,—that the presence of one quality in a thing is a ground for expressing the presence of another quality, which has on other occasions been found in company with the first. Now if we assume that there are objective Universal Judgments,—that one quality is objectively connected with another—then the presence, in any case, of two qualities in the same thing, gives some reason for supposing that they are connected, and will therefore be found together elsewhere. The mere occurrence in a single case would, indeed, be a very slight ground for such a conclusion, but one which might be indefinitely strengthened if several other instances were examined, and also found to possess both qualities, and if these instances were such as to render a mere chance coincidence improbable. In this way an Induction may be strengthened till it reaches almost complete certainty.

But on the hypothesis we are now considering there is no objective connexion of Universals which we can presuppose —only a subjective connexion, which is merely the result of the Induction, and cannot therefore be assumed in making the Induction. It therefore follows, that, in making the Induction, we have not the least right to assume even the slightest probability of A being really connected with B, in the first of the two cases. The fact that each of the two cases is A must be struck out as irrelevant. Our formula then becomes This is B, therefore that is B,—which is plainly absurd, since, if it had any validity, it would enable

us to predicate any quality, which was possessed by any Individual, of every other Individual in the universe.

It is evident that on this we can found, not only no approach to certainty, but no probability or presumption, even of the lightest kind. If two Universals are never connected, except in our subjective expectations, then the presence of two Universals in one Individual can never give the least probability that one of them will be accompanied by the other in another Individual. If, on the other hand, two Universals are really connected, then general laws have objective existence, and are not merely our inferences from particular cases.

Our antagonist may, however, take up a more definitely sceptical position. He may admit that the inference which is made in Induction is perfectly unjustifiable from a logical point of view,—that the conclusion is not made in the slightest degree probable by the premises. But he may say that he never put it forward as logically justifiable, but simply as actually existing. We have, he may say, a natural tendency to expect B to accompany A in one case, if we have seen that it accompanies A in another. We may not be able to justify this impulse, but we cannot deny the psychological fact that we have it.

This position however involves a contradiction. For it denies the validity of general propositions by an argument of which general propositions are essential links. No general proposition is logically defensible—this is itself a general proposition. If, therefore, we make it, by that very act we condemn it as logically indefensible. It is impossible to state this view without denying it, and the result would be, not merely the rejection of one species of knowledge, but complete and utter scepticism. And complete scepticism is in the same plight as self-contradiction. For if you assert that nothing is certain, you assert, among other things, that your denial of certainty is not certain.

Besides these general considerations an argument *ad homines* may be addressed to those who assert the basis of inference to be an irrational impulse. They do, in point of fact, trust to it. And not only do they trust inferences when they have made them, but they take great trouble to put themselves in a position to make more. They conduct, or speak with approval of others who conduct, researches in physical science. They laboriously accumulate instances, and examine what general qualities are found in combination in them, for no other purpose, on their own showing, than that they may become the victims of an irresistible, though

indefensible, impulse to believe that in other instances, as yet untested, the presence of one of these qualities will be a mark of the presence of the other.

Their answer is that it is found in practice that to trust to this impulse produces on the whole useful results, and that, indeed, if we did not trust to it, it would be impossible to live at all. Now it has, no doubt, been found in the past that such inferences, if made with certain precautions, will in many cases be useful. But why should this cause us to trust them in the future? Only if we make an inference from the utility of some inferences in the past to the utility of other inferences in the future. And thus our attempt to give a merely practical value to inference breaks down, since we cannot do it unless we admit one inference at the least to be logically defensible.

To return from this digression—the simplest form which the Law of Nature can assume will be the Categorical; for example, "The lion is a mammal". The proposition, it will be noticed, is exactly the same in its external form as that of any other Categorical Judgment. It differs from the latter only in the implication that it is one of those Judgments, which we have now seen must exist, which are true, not as deductions from any other, but in their own right. As knowledge advances many propositions, which were once accepted as ultimate, and considered to be Laws of Nature, are found to be deducible from others, and lose that title. Our conviction that a certain Judgment deserves to rank among ultimate Laws is generally only negative—*i.e.* it rests on our inability, for the present at any rate, to find a more fundamental Judgment on which to base it.

Hypothetical Laws.

This transition is exactly the same as the corresponding one under the head of the Judgment of Necessity. All Categorical Judgments have their Hypothetical equivalents, which are true if the Categorical Judgments are true, and this applies, of course, to those ultimate Judgments which are called Laws of Nature. If it is an ultimate truth that the lion is a mammal, it is also an ultimate truth that, if anything possesses the qualities which define a lion, it will be a mammal.

Disjunctive Laws.

Here, too, the transition is the same as in Judgments of Necessity. Since the various Universals have between them

to unite and to differentiate everything in the universe, their ultimate connexions must, in some cases at least, be between Universals of different extent. It will happen then with Categorical Laws, as it did with Categorical Judgments, that in some cases the Predicate-Universal will be wider than the Subject-Universal. The Individuals included under this further extent of the Predicate, must be connected with it by one or more other Subject-Universals. And so, by enumerating all the narrower Universals which come under a wider one, we get the Disjunctive Law—the final form of the Subjective Notion.

Here we have the essentially Hegelian idea of the self-differentiating Notion. The phrase is a rather alarming one, and seems to suggest mysterious and recondite activity. But the reality is simple. It means nothing but a Universal, which is always accompanied by one of a certain number of subordinate Universals which are not deducible from it, but which are peculiar to it. Thus, if we take the co-existence of the chief characteristics of animals as an ultimate truth, we may get the Law—All vertebrates are either mammals or fish (leaving out the other sub-classes for the sake of brevity). Every vertebrate will have one of these additional qualifications. They are not deducible from the mere idea of a vertebrate animal, in which there is nothing which would prevent all vertebrates from being mammals, or some of them from belonging to some sub-class which does not in fact exist. And the sub-classes are peculiar to the class, for there are no mammals or fish which are not vertebrate. This is the connexion of Universals which has been rendered necessary by the conception of Individuals as similar and dissimilar with which the Subjective Notion started.

The conception of a self-differentiating Notion has been rather misunderstood. It is sometimes supposed to mean that a Universal—when it is one of the ultimate Universals which enter into Laws of Nature—splits itself up by pure thought in the same way that the dialectic advances by pure thought. You have only to take the idea of a class and examine it with sufficient care, and it will proceed to develop the ideas of its sub-classes. In fact, the old story of the German who conducted his zoological studies by endeavouring to evolve the idea of a camel out of his inner consciousness, is scarcely a parody of what is supposed by some people to be Hegel's theory on this subject.

Such a theory is obviously incorrect, nor do I believe that there is the slightest evidence for the view that it was Hegel's. The only case in which Hegel professes to evolve

anything by pure thought is in the dialectic. He there evolves only categories, which are themselves forms of pure thought. The great majority, on the other hand, of the Universals which appear in Laws of Nature have an empirical element in them. And there is no evidence whatever that Hegel imagined that a new empirical idea could ever be produced by pure thought.

Nor, even in the dialectic, does Hegel give us a Notion differentiating itself by pure thought. The lower (in the sense of the less adequate) passes into the higher, but the higher (in the sense of the more extensive) never divides itself up into the lower.

The self-differentiation of the Notion, then, does not imply any inherent dialectic. It only means that it is an ultimate and inherent characteristic of the Notion that it is always united with one of several others. What these others are must be discovered by us through observation and experiment, and, when they are found, the conjunction must be accepted by us as an ultimate fact.

We have reached now the conception of a regular system of laws proceeding from the more general to the less general, embracing at the top the whole of reality in a single unity, and at the bottom accounting for every quality in every individual. This conception did not develop till the Disjunctive Laws were reached. A Categorical Law connects one Universal with another wider than itself, and leaves the rest of the extent of this wider universal undetermined. No Categorical Law, therefore, can deal with the whole of the field to which it refers. But in a Disjunctive Law the whole of the field covered by the Subject-Universal is systematically divided and determined. And, since all Individuals must have some common quality, the widest Subject-Universal to be found in any Disjunctive Law must be one which includes all reality, and the network of laws will be co-extensive with the universe.

Let us recapitulate briefly the more striking points in our advance. We started, in the Universal Notion as Such, with general qualities. We gained the idea of classification, for the first time, in the Particular Judgment, where, for the first time, we were concerned with the relation of two Universals. In the Categorical Judgment we made the all-important advance to universal truths, and in the Categorical Laws we perceived that universal truths were not only true, but ultimate. Finally, in the Disjunctive Laws we find that these ultimate general truths form a systematic whole.

In this process we see that the element of contingency

gradually becomes less and less. When we first reached Categorical Judgments we had no criterion of the importance of these Judgments. All Categorical Judgments which were true, were on a level. It was left entirely undetermined what things should be grouped with what, because it was left entirely undetermined what Universals we should begin by taking as the bases of our fundamental divisions. But we begin to transcend this contingency when we reach the Categorical Laws of Nature. For we know that these are ultimate, and all other Categorical Judgments can be deduced from them, and this gives us a standard of importance. Those relations between Individuals which are indicated by Laws of Nature are the vital and essential relations, and a classification is natural and significant in so far as it expresses these. And in the Disjunctive Laws this becomes more explicit. For there we see that the ultimate laws form a regular system, extending over all reality, and accounting, directly or indirectly, for all the qualities of everything. We have thus a complete classification objectively existing, and our particular classifications will have value in so far as they approximate to this.

Here the Subjective Notion ends. The question which will next arise—how are some Individual As determined to be B and not C, and others to be C and not B?—will carry us on to the Objective Notion.

IV.—ARISTOTLE'S THEORY OF INCONTINENCE —A CONTRIBUTION TO PRACTICAL ETHICS.[1]

By W. H. Fairbrother.

In his Introduction to the seventh book of the *Nicomachæan Ethics* Grant remarks: "The chief thing we have to complain of in this book is the too vague way in which Incontinence is treated. For the sake of forming a more definite notion of the standard of Greek morality, we could have wished a graphic portrait of the continent man, in the style of Aristotle's fourth book. As it is, we must be content to know that the continent man yields to temptation less, and the incontinent man more, than people in general."

This criticism, slight as it is, and of very questionable value, yet brings out indirectly an important truth, which cannot be too much before our minds whenever we are trying to estimate any portion of Aristotle's ethical teaching, *viz.*, that our test must be *practical* as well as theoretical—we might almost say practical and *not* theoretical. Like the carpenter to whom he compares himself in the first book of the *Ethics*, he values truth only so far as it is 'useful in practice,' and he holds that we study Ethical Science not (like other sciences) that "we may know what virtue is, but in order that we may become good".[2] If this is Aristotle's attitude towards Ethical study as a whole, it is peculiarly so in dealing with the all-important practical question of "doing what we know to be wrong". That a man may sin against a law, of the existence of which he is ignorant, is comprehensible, and needs no explanation. It is sufficient to note the fact and pass on. That, again, a man, of exceptionally strong will, might persuade himself that what other people (or people generally) think wrong is really right, or believe that ordinary moral distinctions are

[1] Read before the Aristotelian Society.

[2] *N. E.*, ii., 2, § 1. *Cf.* i., 3, § 6; x., 9, § 1.

a delusive, though highly convenient, refuge for the weak, and, so believing, deliberately pursue 'vicious' pleasure as his true 'end,' is a possibility which requires little demonstration intellectually, and may be seen manifest occasionally in actual life. These cases exist, they are ethically and practically interesting, they are worthy of careful portrayal both in themselves and in the effects they may be expected to produce upon the well-being of the community; but they admit of little dispute, they require little in the way of explanation, and they are comparatively infrequent. The greater proportion of the wrong-doing we see falls under neither of these categories. The average citizen, when brought to book for offences committed, often pleads extenuating circumstances—may sometimes urge that circumstances "were too much for him"—but he does not plead ignorance of that 'Morality formulated in Law,' *τὸ νόμιμον δίκαιον*, which as a citizen he knows he ought to obey; still less does he glory in striving after an 'end' abhorrent to the popular conscience. He 'knew it was wrong but he did it' is what he admits when honest with himself, and the truth of the admission is accepted without question by his fellow-citizens. To this general belief the whole institution of legal courts and sanctions is due, nor have they any other justification but the fact that by due punishment — by 'making an example'—they may help both the offender and his fellow-citizens to choose the right, and resist the temptation to wrong, in daily practice.

Here then is a fact of social life, not only interesting but puzzling, and so widespread that it becomes of the utmost practical importance to get a clear explanation of its nature and cause. Such explanation is far from obvious—it will demand lengthy and thorough investigation. But, to begin with, it is imperative to note that the so-called 'fact' is not *one* but *two*. Wrong-doing—even in the limited meaning we are now attaching to the word—falls into two distinct divisions: (1) acts of wrong, in the ordinary sense of the term; (2) acts of Incontinence. In the former case the offender not only 'does wrong,' he is also a 'wrong-doer'; in the latter, he does indeed 'do wrong,' but he is not a 'wrong-doer'.[1] This distinction is fundamental, necessitating for each case a separate, possibly an independent, explanation.

The first of these two cases, fortunately, is, in its essential nature, easy of comprehension and needs but a short ex-

[1] *Cf. N. E. passim, e.g.*, vii., 8, § 3, *οἱ ἀκρατεῖς ἄδικοι μὲν οὐκ εἰσίν, ἀδικοῦσι δέ.*

amination. Plato,[1] in his *Republic*, has explained, once and for all, the nature and origin of Moral Virtue and Vice in their ordinary forms. It is a question of training. By continually doing right things we get a habit of right-doing. Virtue is not 'born in us,' it arises from constant habituation (ἔθεσι καὶ ἀσκήσεσι) from infancy upwards, by which is gradually produced a 'power of preservation,' of 'holding to' that which we know to be right, which, when fully developed, it is beyond the capacity of any 'Chalestræan lye,' whether in the shape of pleasure or pain, fear or stress, to dissolve out of us. Conversely, absence of this training, or positive training of a different kind, makes us prone to wrong-doing, exactly as the doing of unhealthy things produces a diseased 'habit of body'.

So far the matter is intelligible and straightforward. The disease admits of easy diagnosis and the remedy is not far to seek. Both Plato—in his unpractical dreaming—and Lycurgus—in sober fact—have manifested the true method of dealing with it, *viz.:* a proper, thorough system of State education, of State training. We must avoid the errors into which they fell and work strictly upon the lines human nature affords us—not crediting it with an impossible unselfishness on the one hand, nor unduly limiting it by a merely 'physical' training on the other. The one takes us from solid earth into regions of empty fancy, the other reduces us almost to the level of the brute. Let us give full recognition to the true ἔργον τοῦ ἀνθρώπου, to all the elements which make up the nature of this very 'composite' creature man; let us formulate our results into a definite body of Law, which shall be taught by a 'State education,' enforced by the impersonal but irresistible State power, and Vice will practically disappear from among us.

But how are we to deal with the man whom no 'Education' can teach, better than he already knows, that a given action is wrong, in whom no training seems able to produce a 'Habit' which will resist any, beyond the slightest, temptation, and whom no power short of physical compulsion at the moment can, apparently, keep in the straight path? There are such men. They are common

[1] It is most curious to note how commentators have overlooked Aristotle's indebtedness to Plato here. Misled probably (but surely unpardonably?) by a few words of Aristotle himself, they generally represented him as the inventor of the 'Theory of Habit' (ἕξις) in *Ethics* as of the Syllogism in *Logic*. The latter point is indisputable, but the 'Theory of Habit' is identical verbatim with that found in the *Republic*. *Cf.*, *e.g.*, 518D, 444C, 429C, etc., etc.

enough to possess a well-recognised class name—the Incontinent, *οἱ ἀκρατεῖς*: in regard to them we despairingly cry, "When water sticks in a man's throat what can he drink to wash it down?"[1] But we ought not to despair. Their case must admit of that intelligible explanation which is the preliminary step to a practical remedy. One fact, indeed, which theoretically adds to our difficulties, gives us practically a hope of solution, *viz.*: that not only does the incontinent man *know* what is right in the given case, he (in some sense at least) *proposes* to do it. He does not, it is true, carry out this purpose, he acts *παρὰ τὴν προαίρεσιν*, but at least, until he falls actually into the temporary abnormal condition called Incontinence, both his intellectual conviction and moral purpose are on the right side. How comes it then that a man can do something which, at the time, he *knows* to be wrong and, in fact, would rather *not* do?

The problem, Aristotle sees clearly, is mainly a psychological one. Before, however, attempting to estimate his answer to this puzzling question it will be well to put clearly before our minds one or two considerations which will help us to understand the exact shape it took in Aristotle's own mind. In this way we shall not only clear the ground but definitely limit the discussion to the exact point at issue—an advantage which no one who has ever sought for assistance among Aristotelian commentators will regard lightly.

In the first place, all difficulties arising from the modern question of the 'Freedom of the Will' may be ignored. Quite generally, it is obvious that the Incontinent man has no 'Will' to speak of, and that all explanation (which is not purely negative) must be sought for in positive psychological, or physiological, elements which he admittedly possesses. More particularly it is clear that the 'Will,' as we understand it, was not an Aristotelian conception at all. He has no word for it and does not use it in Moral or Psychological problems. His material consists of elements called 'Reason' and 'Feeling,' and these are conceived of in a simple, natural manner. Reason gives us conceptions, ideas, 'ends'—Feeling affects us pleasantly, or otherwise, and has kinetic power.

Further, it is important, in view of current writing[2] upon

[1] *Cf. N. E.*, vii., 2, § 10.

[2] I refer to commentators such as Grant, and more particularly to the more thorough critical expositions of writers like Rassow, Dr. Stewart and Prof. Cook Wilson.

this subject, to beware of the danger—lurking in the very phrase, the Practical Syllogism—of limiting our attempt to understand Aristotle's doctrine too much to purely intellectual considerations. If Aristotle does give us nothing but an intellectual juggling performed under the sweet seductiveness of sensuous suggestion, if it is true that he offers us nothing better than "broken knowledge and moral obliviousness," it is clear that he stultifies his own teaching, and forgets the problem he himself formulates. A 'trick of the intellect,' a 'sophism of the imagination'—these imply the admission of that Socratic heresy which Aristotle sets himself to destroy, and, much worse, amount to a denial of the possibility of Incontinence altogether, with the unendurable consequence, man's moral irresponsibility. Throughout the *Nic. Ethics*, and the *De Anima*, nothing is clearer than Aristotle's insistence upon human responsibility. No actions are involuntary except those done under 'physical compulsion' or through 'ignorance of the particular fact,' which, just for these reasons, are not actions at all, properly speaking, but 'movements'. The incontinent man, if not (possibly) the 'efficient cause of his actions' in the fullest sense, is sufficiently so to be held responsible, and morally blameworthy, for them. He cannot escape by pleading 'potential' *versus* 'actual' knowledge,[1] or by urging some sad 'error of judgment'. To confine, again, Aristotle's analysis to these intellectual elements is to ignore that moral 'struggle' in which the essential nature of Incontinence consists. Incontinence arises from the fact that the human mind is composed not only of a 'rational' part, but also of 'something else which fights and strains against Reason'.[2] It would be tedious to enlarge further upon this point. We must believe, without further parley, that in his attempt to solve the problem of Incontinence Aristotle kept clearly before him the convictions (1) that man is morally responsible for this, as for all other, kind of wrong-doing; (2) that Incontinence consists primarily of a struggle between two different psychical elements—Reason and Feeling — and of the victory of the latter over the former; (3) that, consequently, no 'Sophistic' attempt to explain the phenomenon as due to fallacious reasoning, to

[1] It is interesting to note here that Prof. Cook Wilson, believing that *Nic. Eth.*, vii., 3, offers us only a subtle analysis of 'kinds of knowledge,' concludes, legitimately enough on that assumption, that this portion of bk. vii. is neither Aristotelian nor Eudemian.

[2] *Cf. Nic. Eth.*, i., 13, § 15, *et passim.*

incomplete apprehension of the facts, etc., etc., can be finally satisfactory. From these convictions it follows that the problem narrows itself to a single question, *viz.*, τί κινεῖ τὰ μόρια—what is the actual efficient cause of that physical movement in which every action outwardly consists? The man, the moment before the act, is, to outward observation, at rest. "What then is it," asks analytic practical Aristotle, "which produces that sudden stretching out of the hand, that hasty raising to the mouth, that passionate suction of the lips, which together make up the immoral act called 'tasting the forbidden thing'?" Answer this question truthfully and the problem is solved. At one stroke we shall free ourselves from those endless dialectical subtleties, based upon true but irrelevant distinctions between 'knowledge,' 'opinion' and the like, which have hitherto occupied men's minds. The problem is: 'What moves the limbs?' These distinctions, important though they are, all fall within the region of Reason alone, and Reason alone cannot 'move'.

The question, as thus stated, Aristotle attempts to answer in the third chapter of the *Nic. Eth.*, bk. vii., and, more particularly, in §§ 9-11 of that chapter, where he examines it, in his own phrase, φυσικῶς—according to its true essential nature. We may summarise this chapter as follows:—

"It is disputed whether the incontinent man sins *knowingly* or not, and in what sense of the word *knowing*. In regard to this problem we say:—

"(1) In the first place the distinction which some ingenious reasoners draw between 'true opinion' and 'knowledge' will not help us here. They argue that the incontinent man is fully conscious, both of what he is doing and that it is wrong to do it, but that this consciousness is not that knowledge which amounts to demonstrated truth — not knowledge proper—but merely 'opinion'. In this way they save the claim of 'knowledge' to be all-convincing and all-powerful, without adopting the absurd alternative that the incontinent man does not know what he is doing. This distinction is important in itself, and in its application to science, but irrelevant to the moral problem before us. In many cases the incontinent man is unaware that the opinion he holds is merely opinion; he imagines it to be absolute, demonstrated truth (ἀκριβῶς εἰδέναι), and in any case the question is not whether his opinion be true or not, but how he comes to act contrary to it. In other words, how is it possible for him to do what he *believes* to be wrong? Such

belief, though often mere prejudice, may be as strongly held as scientific knowledge could ever be.

"(2) In the second place we must note that there are several ways of 'sinning against knowledge' *in a sense* (πως) which do not amount to Incontinence, though they look like it at first sight and are readily confused with it. Such confusion is easy because the judgment 'This man has done what he (as an educated citizen) must know to be wrong' is true, if the necessary qualifications be added, and it is easy to forget these qualifications. Let us look at the three commonest forms of this pseudo-incontinence:—

"(*a*) The man *has* the knowledge but does not *use* it. [Any case of absent-mindedness will illustrate this. The respectable citizen knows he ought not to carry off in his pocket the pencil-case lent to him for a moment, but does so unconsciously while thinking of something else.]

"(*b*) The man both *has* and is *using* the knowledge, *i.e.*, he is consciously bearing in mind the moral law, 'Theft is wrong,' but makes some innocent mistake in application. He uses the 'major' but not the 'minor'. He remembers, again, that such and such food is beneficial to man but does not know that the particular food before him is of that kind. Such misapplications of knowledge, or deficiencies in knowledge, are simply endless, and will easily account for many actions which seem to us at times so astonishing.

"(*c*) The man may *have* the knowledge, as a permanent mental possession, but not have it *available at the moment* owing to physical causes. He may be half asleep, mad, or drunk, and in this state may gravely give utterance to all the wisdom of Empedocles without in the least 'knowing' in the sense required for our present purpose.

"All these and other such cases lend themselves readily to sophistic puzzles, and have served, and do still serve, to provide material for profitless discussion, but they are all irrelevant to the real question at issue. In regard to none of them can it be truly said: 'The man has done something which *he knew at the time* to be wrong'. But the statement of them has cleared the ground. We know now exactly what has to be explained and can proceed to the real root (φυσικῶς) of the matter.

"(3) The true nature of Incontinence may be best exhibited by means of the 'Practical Syllogism'. This form of argument differs in no respect *formally* from any other Syllogism, but it has for its *matter* something which is not of merely abstract or scientific interest but which affects us practically as living and sentient creatures. Hence from the first an

element of 'Feeling' (*αἴσθησις*) necessarily (*ἤδη*) comes in, and the 'minor' premiss remains no mere logical particular but asserts a concrete 'moving' fact actually present. To illustrate:—

> All sweet things are fitting to be tasted,[1]
> This particular thing here to my hand is sweet,
> *ergo*, This is fitting to be tasted.

"Here we have a Syllogism the conclusion of which is incontrovertible logically, but the subject-matter of which remains no mere truth of abstract reasoning. It contains a concrete physical element affecting the sentient organism, which prompts 'movement' in such a way that (assuming nothing to come in as a hindrance) the reasoner necessarily both recognises the truth of the conclusion and proceeds to eat the sweetmeat.

"Bearing this characteristic of the practical syllogism in mind let us see how it accounts for Incontinence. Suppose (as is often the case in fact) there are in the mind not one, but two, universal judgments—both equally true and both, as a rule, equally right to carry out in practical application, but which, owing to some 'accidental' cause, are for the moment in opposition; *i.e.*, *at this moment* it is right to follow out the one, wrong to act according to the other. As universal judgments they are purely intellectual facts and neither of them can 'move' (each of them *λέγει οὐ κινεῖ*), but, unfortunately for the poor weakling we are thinking of, the one he ought *not* to act according to is exemplified in some concrete sensible thing before him. This 'affects' him, not intellectually but physically, it raises a feeling of pleasure and consequent desire, and the 'opposition' or 'struggle' becomes no longer the strife between two, as it were, distant voices saying respectively 'Come here' and 'Go there,' but between one of those voices still appealing, 'Come here,' on the one side, and, on the other, a physical force which literally 'drags' him in the opposite direction. *ἡ μὲν οὖν λέγει φεύγειν τοῦτο, ἡ δ' ἐπιθυμία ἄγει.* The problem, we remember, is, 'What moves the limbs?' and Feeling (excited by the definite object before him) can move the limbs, whereas intellectual truths, not exemplified in this manner, cannot. We have to remember too that what the incontinent

[1] The substitution, a few lines *infra*, of the word *ἡδὺ* for the phrase *γεύεσθαι δεῖ* shows that the word *δεῖ* has here the ordinary simple meaning it always bears in Aristotle, and has nothing to do with such a conception as that of 'ought'.

man does is not *in itself* wrong, it is only unfitting at the time. The argument—

> All sweet things are pleasant to take,
> This thing here is sweet,
> *ergo*, This is pleasant to take,

is valid in itself and conflicts with no moral truth whatsoever. It is only when, owing to other 'accidental' considerations, it becomes our duty for the moment to do something else, that not the major premiss, but the application of it, becomes 'opposed to right reason'."

Such, as it seems to me, is Aristotle's natural straightforward analysis of the phenomenon in question. The incontinent man, like every one else, has varied social relations, each of which may be formulated into a 'rule'—a 'universal'. These moral rules are all true and, in general, do not conflict with each other, but any two of them may, *κατὰ συμβεβηκός*, do so at a given moment. For example (to take the first illustration which occurs to me as I write) I, as a 'married Don,' have social duties to both College and wife. We may formulate these as "I ought to dine in Hall regularly twice in the week"—"I ought not to leave my wife alone unnecessarily". Do these universals conflict? Assuredly not, as a rule, but if, on one of my College nights, it (in Aristotelian phrase) 'happens to the wife' to be ill, they 'accidentally' do come into opposition. Such 'oppositions' are of commonest occurrence and it is needless to multiply illustrations. Why does the incontinent man 'act according to' the wrong universal? Because, said many thinkers at that time, under the influence of desire he performs an intellectual trick—he forgets to apply a 'minor' to the right universal, he applies a minor to the wrong one, or forgets the right one altogether,[1] etc., etc., etc. No! says Aristotle, he does none of these things because, poor fellow, they are *already done for him*. The 'minor' is already there, it is thrust upon him, it 'moves' him, he cannot escape except by resisting it, and there is no 'moving' power in him to enable him to do this. In modern times the powerlessness of 'good advice' against temptation is proverbial. Aristotle explains this simply—the one 'speaks,' the other

[1] Our leading modern commentators seem to me to fall into similar mistakes. They talk of "*applying* a minor *premiss* to the right moral principle" and so forth. Much subtle discussion, as to the exact method of such intellectual sophistry, thus arises, which would be saved if we remembered steadily that, to Aristotle, the crux of the matter is, 'What moves the limbs?'

'drags'. The incontinent man is not to blame for this in the first instance. He does not seek the temptation, he constructs of his own initiative no misleading syllogism. Left to himself he would go right, not wrong. He struggles to go right as it is and rues his fall bitterly afterwards, for he is a man of good intention, warm heart, and strong feeling.

We might, perhaps, represent Aristotle's doctrine more clearly by the image of a pair of scales. Then, if our incontinent man be any ordinary workman, we should have, hanging at one end, the universal judgment, "Men, after work, should look after their wives and families," at the other, the judgment, "A pleasant supper with a mate on his birthday is most enjoyable". [These do not, as a rule, conflict, but, owing to some 'accidental' domestic event, do so on the evening in question.] So far the scales are evenly balanced and the man, left to himself, would go home. But, unluckily, to the second, and wrong, universal, is attached a 'minor' consisting not of a particular proposition but of a concrete fact, *viz.*: the warm pressure of a friendly arm, the sweet savour of a toothsome dish, the provoking glimpse of a black bottle, supported by sugar and a lemon, beyond the half-open cupboard door. These make up a serious addition to this end of the scale—they tickle his nostrils, affect his muscles, they physically 'move' him. The universal judgment, at the other end, still 'speaks,' but the desire produced by the concrete particular 'drags' (λέγει . . . ἄγει); and there can be no doubt which end of the scale will kick the beam. There is a 'struggle' doubtless—its length and severity depending upon the individual case, for men differ in degree of incontinence, and temptations differ in strength —but that 'universal' which is 'active' (ἐνεργεῖ) in a concrete fact is bound to win, unless something, equally practically effective, can be attached to the universal at the other end of the scale. If the latter happen to be the case to begin with, no incontinence takes place at all. The man's heart is in the right place, and the mere presence, on a Bank Holiday, of 'loving wife or sweetheart kind' ensures with ease conduct which, without that physical presence, might seem impossible.

With what Justice, then, can the incontinent man be held morally blameworthy for his actions? The forces which act upon him are not of his own choosing; they come upon him from the outside, and, in default of that 'trained Habit' which his softer nature prevents his possessing, he is bound to move, or rather 'be moved,' along the line of least resistance. Does not the explanation just given prove too

much? It does away with that touching Socratic delusion as to the impossibility of sinning against knowledge, but only at the price of abolishing the 'sin' itself.

For Aristotle's answer to this question we must look to the *De Anima*, not to the *Ethics*. In the latter his task is to show *that*, and *how*, Incontinence takes place, not to explain or justify the moral reprobation we attach to it. This justification, obviously, can only be found in the presence of some psychological factor which the weakness of even the incontinent man does not entirely deprive him of. There must be somewhere available a Kinetic element capable of 'moving the limbs' in the other direction. *Ex hypothesi* this cannot be a sensible object; it must be something mental and subjective, not physical and objective, something, *i.e.*, having its origin in the mind itself, not in a stimulus to Feeling from without. Is there anything of this kind to be found?

In one sense of the term Aristotle answers 'No!' That is, he declines to introduce any third element, or Faculty, in addition to Reason and Feeling (*διάνοια καὶ αἴσθησις*), or to attribute to the former any 'moving' power.[1] On the other hand he recognises gladly the fact that, as a matter of common experience, an 'idea in the mind' may have a powerful 'physical' effect upon the movement of the body. Now an 'idea in the mind' is, as such, independent of any *present* sense surroundings. If then such an 'idea' (*φάντασμα*) can be introduced into consciousness at the critical moment it may outweigh the 'sense object' (*αἰσθητόν*) which, if allowed to act unhampered by anything but rational principles (*καθόλου δόξαι*), has such dire effect upon weak human nature. *φαντάσματα*—mental images—have as much 'moving' power as physical objects. They possess this power because they excite 'Feeling,' with consequent 'Desire,' and they excite 'Feeling' because they are themselves 'decaying relics of sense'.[2] As products of original sense impressions they have that capacity of stimulating movement which sense impressions themselves possess. They are permanent (as contrasted with actual sense impressions) elements retained in the memory, still endowed with the capacities they owe to their origin, and available at any time. They form, it is true, in the sphere of knowledge,[3] that raw material out of which Reason constructs the world of Science, but they are not 'rational' elements in the sense that they owe their

[1] *Cf. De Anima*, iii., 10, § 9. [2] *Cf. Ibid.*, iii., 3, § 13.
[3] *Cf. Ibid.*, iii., 8.

origin to Reason. They are of entirely different and independent origin, for they exist in that animal world which is sentient only, as well as in the rational creature, man. A mental image is thus a definite picture which may be as vivid as that present to the physical eye, and as 'effectively present' as the sense temptation itself.

Modern science has advanced beyond this simple analysis of Aristotle, but without falsifying his explanation, in so far (at least) as it is relevant to Ethics. The elaborate detail of the psychological text-book leaves, after all, the main moral fact untouched, that we are affected, and can be as forcibly influenced, by something not, in the ordinary sense, present, as by the feeling stimulated by an actual object before us. It is to this that the 'struggle' the unfortunate man makes is due, and in this lies his moral responsibility. Strictly speaking, Aristotle, for clearness of exposition's sake, has drawn his outlines a little too sharply. A moral principle—a universal judgment—opposed to a concrete particular is powerless to even begin a contest. But Memory is always working to some extent, and produces, it may be very vaguely, some blurred outline of a 'particular' mental image. If this image be very indistinct it has practically no effect at all—the man yields almost at once, with probably some prick of conscience to poison his enjoyment though it fails to influence his action. If it be very vivid he resists the temptation altogether—in some cases, perhaps, feels an actual repulsion against the suggestion. It is in the space intermediate between these two extremes that the 'struggle,' the 'swaying to and fro,' takes place, varying in duration and severity according to the 'definiteness' of the mental image. There is sober fact, as well as poetic metaphor, in the expression 'Guardian angel' which grateful man so often applies to wife or sister. Common sense tells us, if we wish to help a weaker brother at a crisis, to avoid general principles and Moral Laws, and paint instead, with a few graphic touches, some 'stirring,' 'moving' picture. But the man himself has ever at his side an unfailing friend —Memory—from whom, if he will listen, sufficient help will be always forthcoming. None of us can do without this help if we are to keep on the right path, and the 'incontinent' man is but he who needs it more constantly than the average individual. Nature has given him less strength for the fight, and in so doing has to a certain extent diminished his responsibility, but she has not taken it altogether away. The incontinent man is still a *man*.

V.—DISCUSSIONS.

REPLY TO MR. MUIRHEAD'S CRITICISM.

In the January number of Mind, under "Discussions," Mr. Muirhead criticises my article "Ethics from a purely Practical Standpoint," which appeared in Mind of July last. He begins by broadly hinting that I have failed to understand the Idealist view, and attributes my non-comprehension to want of trouble bestowed upon the subject. Well, I have certainly not spent a great deal of time upon the study of Neo-Kantian and Neo-Hegelian Ethics, but I have given it what seemed to me a fair or sufficient amount of attention. If, in looking for bread, you have invariably found a stone, much prolonging of the search naturally seems to you a game which is scarcely worth the candle.

Before considering the one instance which Mr. Muirhead specifies of my misconception of Idealism, I have to refer to his second objection, or rather grievance. He complains that when I said, with reference to Mr. Spencer's *Ethics:* "In reading it we perceive that we are to encounter no pandering to received views," I was hinting at its superiority in that respect to Idealistic writings. In this assumption Mr Muirhead is wholly mistaken. However, as he refers to "religious teaching of the present time," apropos of received views, I may observe that I have repeatedly noticed, in members of the clerical body, a marked preference for Neo-Kantian and Neo-Hegelian Ethics, as compared with a "chilling utilitarianism". It has seemed to me that the explanation was not far to seek. Being essentially vague and indefinite, the Idealistic Ethics were thoroughly safe: in no way calculated to disturb existing views and existing institutions.

According to Mr. Muirhead, my misrepresentation of the Idealistic view consisted in my speaking as though Idealists made no appeal to consequences as a test of conduct. These, he adds, have been emphasised by Idealists. I have again searched the pages of his *Elements of Ethics*, but have found no emphasising, and only one sustained or more than passing allusion to the results of conduct; while there is nothing said of the necessity of impressing these results as an inducement to right action. Not only so; the consequences to which I referred in connexion with Mr. Muirhead's list of virtues were the effects of conduct as conducive

either to the increase or decrease of human happiness, and certainly not consequences irrespective of any such tendency. He tells us that the Idealist consequences are the results of conduct with regard to their furtherance of "the supreme interest of human life," and that that interest is "the development of a system of activities which depend for their value not on the amount of agreeable consciousness with which they are accompanied, but on their harmony with an ideal of human life". He does not explain whether this ideal of human life is the only definite ideal that I could discover in his *Elements of Ethics* (his definition of self-realisation and his list of virtues, all of which I have criticised, but have had no reply to the criticism), or whether it is a different ideal. In an article, "Philosophy at Oxford," which appeared in the first number of MIND, the late Mark Pattison remarked: "The true Hegelian resents explanation". I must say this mental attitude has seemed to me very apparent throughout Idealistic writings. To reply, however, when you do not know to what you *have* to reply is necessarily somewhat difficult. But in any case, the ideal of life which, it is expressly stated, is not intended to produce "agreeable consciousness"—*i.e.*, neither to promote our own happiness nor the happiness of others—is an ideal to which I am wholly indifferent. Nor can I conceive its being otherwise regarded by any one who is not a Neo-Kantian or Neo-Hegelian. I can only imagine the reverse if the Idealists were looked upon as inspired prophets, pointing the way to happiness in another existence, although disregarding it here below.

I am next found fault with for being seemingly unaware that the words happiness and well-being have been called ambiguous terms. I *am* aware that this has been argued, but I do not acknowledge the force of the objection, inasmuch that there is no substitute for these words (perhaps we may add, and scarcely any abstract term whatsoever) which is not open to the same criticism —*i.e.*, of which it cannot be contended that it conveys more than one invariable meaning. I am told in effect that I ought to adhere always to the term pleasure—a practice which, by the way, is followed by nobody. But how different, for instance, may the word pleasure seem to the scientific hedonist and to the ordinary person! While the words happiness and well-being are, without doubt, sufficiently unambiguous for all practical purposes, they are preferable from the very fact that they are regarded by the generality of mankind with more respect than is accorded to the term pleasure. And, from the hedonic standpoint, the greatest general well-being and the greatest general happiness are strictly synonymous with the greatest general pleasure. Cavilling at these words, on the part of those whose whole system is rife with indefiniteness, is to me a pronounced example of straining at a gnat and swallowing a camel.

Again, Mr. Muirhead appears to question my right to lay claim to a certain amount of originality in considering ethical theories

and methods from the standpoints of accuracy as a guide and probable effectiveness as an influence in promoting desirable conduct. Will he then mention the ethical disquisitions, or disquisition, that systematically, or point by point, examine the different solutions, or would-be solutions, of the ethical problem in relation to these ends?

I am also accused of being heretical in my utilitarianism. In the first place, I have never been at all dismayed by the charge of heresy. To be in no way heretical, may be said to be in no way original. Nevertheless, I do not admit that I differ from the utilitarians referred to—J. S. Mill, Mr. Spencer and Professor Sidgwick—to the extent, or anything like the extent, averred by Mr. Muirhead. He writes: "J. S. Mill, as everybody knows, was led by his personal experience to maintain that from the point of view of individual happiness it was not desirable to cultivate the habit of considering conduct from the hedonistic point of view". Will Mr. Muirhead be good enough to specify the passage or passages from Mill that may be held to bear this interpretation? I may remark that Dr. Bain has criticised this idea in his essay "Common Errors of the Mind" (published in his volume of *Practical Essays*), but he is replying to what had been argued, not by Mill, but by the present Master of Balliol and by Bishop Butler. Then we are told that, in Mill's opinion, "the best practical results were to be obtained by avoiding the use of the pleasure calculus, and pursuing objective interests as though they had a value on their own account". In his "Utilitarianism" Mill speaks of health, power, fame, money, etc., as being "desirable for themselves," but that for the reason that "besides being means they are a *part* of the end". And he goes on to say that any object of desire is desired, "either because the consciousness of it is a pleasure, or because the consciousness of being without it is a pain, or for both reasons united". This is surely incompatible with attaching a value to objects of pursuit irrespective of a calculation of pleasure and pain.

As to Mr. Spencer and the so-called "paradox of Hedonism," he certainly maintains theoretically that we are to be guided by deductions from laws of life and conditions of existence as to what "necessarily tends to produce happiness and unhappiness," and that these "are to be conformed to irrespective of a direct estimation of happiness and misery". Nevertheless, we find throughout his writings, but very especially in his *Ethics*, direct hedonic calculation. And, indeed, in the preface to the second volume of the *Principles of Ethics* he frankly admits that the Doctrine of Evolution had not furnished guidance to the extent he had hoped, and that most of the conclusions have been drawn empirically. Moreover, as I pointed out in my July article, by having asserted that the picturing of the effects of conduct, as productive of pain and pleasure to others, is the only moral inducement to avoid wrong and to do right, Mr. Spencer has given such support to the

pleasure calculus as may be held to debar him from objecting to the use of it.

With regard to what is said of Professor Sidgwick being "never tired of emphasising" "the undesirability of relying on a purely utilitarian morality," let us look to his own words. He writes: "Here our investigation seems after all to leave Empirical Hedonism as the only method ordinarily applicable for the ultimate decision of such problems" (he is referring to "particular modifications of positive morality"), "at least until the Science of Sociology shall have been really constructed". He afterwards adds that the consideration of the question of maintaining or modifying moral rules "resolves itself into a comparison between the total amount of pleasure and pain that may be expected to result respectively from maintaining any given rule as at present established, and from endeavouring to introduce that which is proposed in its stead. That this comparison must generally be of a rough and uncertain kind we have already seen; and it is highly important to bear this in mind; but yet we seem unable to find any substitute for it." Further he explains: "No doubt there are, as we saw, other ends besides Happiness, such as Knowledge, Beauty, etc., commonly recognised as unquestionably desirable, and therefore largely pursued without consideration of ulterior consequences; but when the pursuit of these ends involves an apparent sacrifice of happiness in other ways, the practical question whether, under these circumstances, such pursuit ought to be maintained or abandoned seems always decided by an application, however rough, of the method of pure Empirical Hedonism". And while Professor Sidgwick approves of conjoining a Utilitarian with a Common Sense morality, by admitting that we can only regard the latter as trustworthy when it accords with the utilitarian test, he again constitutes greatest happiness the ultimate court of appeal.

Before turning from Professor Sidgwick's *Ethics*, I have to allude, not to the next argument—it is no argument—but the next remark directed against my mode of defence. Referring to the difficulties of hedonic calculation, Mr. Muirhead says: "I doubt very much whether any one who has realised the force of the considerations put forward by Professor Sidgwick and others will find in the few sentences Mrs. Bain devotes to this subject an adequate reply to them". If by adequate Mr. Muirhead means a full reply, in an early paragraph of my article I explained that it would be impossible for me, on account of the number of points to which I wished to refer and the limits of my paper, to give an exhaustive criticism of what had been said of the difficulties of hedonic calculation or of any other topic. I maintained, however, that Professor Sidgwick and Mr. Spencer had over-estimated these difficulties, and substantiated the contention by criticising certain arguments and examples which they had specified. If Mr. Muirhead had furnished a reply to these remarks, he would then

have made use of argument; but no such answer is forthcoming. And while my criticism was necessarily brief, it went beyond "a few sentences," as Mr. Muirhead puts it; the consideration of difficulties suggested by Professor Sidgwick, exclusive of further remarks with reference to Mr. Spencer's objections, having extended to a page and a half of an article which, in all, amounted only to fifteen pages.

I have now arrived at what may be called the main point of Mr. Muirhead's criticism: his contention that hedonic instruction —he seems to mean of any and all forms, and makes no allusion to the particular lines that I suggested—would have no influence. After this contention, however, he deviates somewhat from the main issue, and I have to follow the course of the deviation.

(1) He observes that the utilitarian theory "sets the pleasure of the individual in competition with general well-being". Here we have again trotted out an old familiar argument which, in the face of the clear explanations given by utilitarians again and again, has seemed to me so unwarranted as scarcely to merit refutation. I can only repeat that the utilitarian theory does *not* set individual pleasure in competition with the general well-being. It approves of individual happiness in so far as it is adding to the sum total of general happiness; and that is, of course, in every case where it does not conflict with that happiness. But it enjoins the suppression of whatever individual aims seem to operate against the social weal. As to Mr. Spencer's conclusion that we must work first for self, then for others, Mr. Muirhead must surely have forgotten that we are asked to pursue this policy because in the long run it proves to be the most altruistic, the most conducive to general happiness. And, practically, as we all know, it *is* pursued by Neo-Kantians and Neo-Hegelians, as well as by other people.

Mr. Muirhead returns to the main issue by asking the following questions: "In the conduct demanded by the higher morality of any time," "are not egoism and altruism almost certain at one point or another to collide? And in these circumstances with what degree of effectiveness can appeal be made to the waverer?" As regards the first question, in the case of the more highly endowed morally, while present individual gratification may not infrequently collide with general well-being, conduct that tends to ultimate or greatest individual happiness in the long run, would rarely come into collision with the altruistic end.[1] In the case of

[1] It is in the interest of social well-being that there should be those who run counter to received opinion in different directions. And persons who voluntarily choose this course may suffer considerably from social intolerance to the end of the chapter; hence the ultimate happiness of exceptional individuals, who may be highly endowed morally, may certainly not accord with social well-being. It is doubtful, however, if, with strong inclinations in the directions referred to, they would have been happier had they chosen a more compromising course. But these are the very few who do not come into consideration in a general question.

the average person, such collision would be more common, still much rarer than the colliding with present gratification. And to point out these facts, as well as to develop sympathy with others, should assuredly form part of the duty of the ethical teacher. How far we may be influenced to put aside present inclination by the thoughts of future happiness depends, of course, upon individual character, and may be of next to no degree, and of all degrees. And much the same may be said of egoism *versus* altruism. To be willing to suppress every personal aim that might seem to detract from the general well-being would mean to have attained to an impossible perfection; but between this and being in *no* way influenced by a desire not to act in a manner opposed to the happiness of others, there are, I need scarcely say, multitudinous degrees. As I formerly remarked, with those who are capable of little or no sympathy, a much fuller realisation of how their conduct, directly and indirectly, will injure and benefit others may be expected to have little or no effect. But with the rest of us, it cannot possibly be said that such realisation is of no avail as an influence opposed to pure selfishness. To maintain this is to deny the operations of sympathy, to argue that the appeal of the philanthropist and social reformer is a mere sham (we may go further and add that there *is* no philanthropist or no genuine social reformer), and that the politician is simply wasting his words when he asks us to co-operate in behalf of classes and sections of society other than our own, and to consider the interests of different nationalities.

(2) Mr. Muirhead's next objection is that "Hedonism sets the lower instincts in comparison with the higher"; and that "it is inevitable in the present stage of human development that to the great mass of mankind the latter should seem distant, problematic and insipid in comparison with the former". In the first place, I object both to the word instinct and to the terms higher and lower. Nor do I know the specific meanings intended to be conveyed by the phrase "higher and lower instincts". But suppose it to mean what is popularly regarded as our higher and lower tendencies and desires, and that our whole nature is being taken into account, or, in other words, that we are looking to its physical and intellectual, as well as to its purely moral side. Universalistic hedonism or utilitarianism does *not* set an undue gratification of "lower" tendencies and desires in competition with the "higher," but disapproves of excess in this, as in every direction. On the other hand, seeing that a due regard to certain so-called lower desires is essential to human happiness, the utilitarian must value it accordingly. If, for instance, a man gratifies his artistic, musical or literary tastes at the expense of proper attention to his food, his devotion to the "higher instincts" deserves not admiration but reprobation: he is wanting either in common sense or in self-control. Again, to adopt a somewhat stale example, if in giving rein to his philanthropic impulses, he neglects his own

business or profession, he may ultimately become a burden upon others; hence had he paid more attention to his egoistic promptings, he would have acted in the long run much more altruistically. From Mr. Muirhead's allusion to the great mass of mankind, one might suppose that the average man was a glutton, a drunkard, a sensualist, heartless and cruel. Fortunately we know that to describe him thus would be gross exaggeration. But allowing that he does unduly gratify the more animal and self-seeking desires and present inclinations in proportion to his fulfilment of the claims of the æsthetic, intellectual, duty-regarding and benevolent parts of his nature, a clear, full and forcible demonstration of the hedonic advantage of giving more heed to the latter would unquestionably have greater effect than vague allusions to an undefined, indefinable, or never clearly defined ideal that has no relation to "agreeable consciousness". Whatever gratification or development of the "higher" tendencies and desires cannot be shown to be hedonically approvable—that is from the standpoint of universalistic hedonism—could not justly be advocated by the hedonist. As to the extent to which a man may be induced to develop his intellectual and what may be called his more æsthetically and altruistically emotional nature, it depends, of course, upon his inherited endowment, his education and his surroundings, and no ethical demonstrator could do more than a certain amount: he cannot pretend to be a worker of miracles.

What I have already said is sufficient answer to the first half of the succeeding paragraph, so I pass on to the second half. Referring to Mill's distinction of quality in pleasures, Mr. Muirhead supposes him to say: "This conduct cannot be shown to produce more pleasure than that, but it is higher". To put the above sentence into Mill's mouth is not, I hold, justified by the gist of his remarks in the *Utilitarianism*. Talking of those who prefer pleasures that "employ their higher faculties," Mill observes: "Whoever supposes that this preference takes place at a sacrifice of happiness—that the superior being in anything like equal circumstances is not happier than the inferior—confounds the very different ideas of happiness and content". In my view, however, if Mill had considered the choice of "higher pleasures" in a less restricted sense, that is to say not merely with regard to the chooser of the pleasures, but how his choice may affect others, their hedonic desirability could have been much more readily demonstrated.

In the last paragraph it is argued that Idealism "proposes a definition of social good which reconciles" "the claims of self and others". As the allusions in these remarks to an ideal of life, on behalf of which the above plea is advanced, give no indication of what it actually means, one could not well say if it does or does not reconcile conflicting claims, or anything else. But this I do know, that so far as we can catch the meaning of Idealists in their references to self-abnegation and the realisation of the social

self, these point not to the advocacy of a fair adjustment of relative claims, but to an undue altruism—an altruism which never is, and could not be, carried into practice. Then the additional explanation that "Idealism takes individual well-being to consist in a certain quality of life," does not tend to further elucidation. And as to Mr. Muirhead's argument that the vagueness of his ideal is excusable on account of the general want of exactitude in Ethics, there is an immeasurable difference between the partial inexactitude of hedonic calculation and the total indefiniteness of an unexplained ideal. Moreover, as I previously argued, the mere pointing to an ideal of life, however definite it might be, without specific indications of how we are to act in the innumerably different circumstances in which we may be placed, could not fail to be futile as a method of ethical instruction.

For a moment I postpone my concluding observations to allude to what is inferentially contended in the final words of the criticism. This is, that instructors of Ethics, from the utilitarian standpoint, would have no "sympathy with the best ideals of human character," and no "insight into the general trend of social progress". Such an assertion is based on a wholly unjustifiable rendering of the utilitarian position. These instructors would require, not to have "some" but much sympathy and insight in the directions referred to. What I said in my article of the necessary comprehensiveness of the utilitarian estimate, or again of the requirements of hedonic instruction, sufficiently showed that I appreciated an outlook for the general trend of social progress. And in pointing out the modes of conduct most conducive to the general well-being, the hedonic lecturer could not fail to form an opinion of the qualities that naturally lead to such conduct: the possession of these qualities, as I explained in somewhat different form, being the utilitarian ideal of character.

What remains to be said is apropos of my "splendid isolation" —for so I may put it—"with Mr. Spencer and the Positivists" in believing in an "ethical priesthood," as Mr. Muirhead prefers to call lecturers on points of conduct. I prefer the terms lecturer, teacher, instructor, to priest; still I do not feel at all confused or ashamed when I am confronted with the phrase ethical priesthood. Nor, certainly, am I ashamed of my companionship—that of Mr. Spencer and the followers of Auguste Comte, who, however we may dissent from his peculiar views on religion, was undeniably a highly original, a profound and an intelligible thinker. But the circle of those who presumably approve of an ethical priesthood may be not a little enlarged—in fact to include the whole of the religious world. Its priesthood is no doubt a religious priesthood; yet none the less is it also an ethical priesthood. Be that as it may, I have once more to remark, that those I consider fitted for the most important and difficult task of ethical instruction would be men whose acquirements testified to a very high standard of ability.

B. Bain.

VI.—CRITICAL NOTICES.

Analytic Psychology. By G. F. Stout, Fellow of St. John's College, Cambridge. In two volumes. London: Swan Sonnenschein & Co., 1896. Vol. i., pp. xv:, 289; vol. ii., pp. v., 314.

It seems superfluous to undertake, for the readers of Mind, any mere report of the opinions of the author of the present volumes. On the other hand, the task of estimating Mr. Stout's contributions to his science is one which cannot be very briefly accomplished, at least by the present reviewer. For these contributions relate to some of the most central of the problems of psychological theory. They are marked by originality of method, even where they appear as defending well-known doctrines. And the present writer finds that they arouse in his mind a somewhat complex union of assent and dissent. In fact, one of the reasons for the long and unwilling delay of this review has been the difficulty that I have felt in clearly distinguishing between the features of Mr. Stout's treatment that call forth my admiring agreement, and the very closely related features that I find myself unable to accept. I do not believe this difficulty wholly subjective. Nor, on the other hand, do I believe Mr. Stout to be at all individually responsible for it. I take it that the present position of psychological theory, the current controversies as to the nature of "psychical causation" and as to the constitution of the "stream of conscicusness," are such as demand of us, when we consider them, some very subtle and delicate distinctions. Personally I thank Mr. Stout, whose whole treatment of his subject is so subtle and so delicate, for help in making these needed distinctions clearer in my own mind. But when I turn to the task of commenting upon his highly important discussions in the light of these distinctions, in so far as I at present possess such light, I find myself simply unable to be as brief as I could wish. This is my fault; but at all events I hope that the length of these comments may be taken as a measure, however awkward, of my interest in our author's work.

I.

Mr. Stout distinguishes between "Analytic Psychology," the topic of the present volumes, and "Genetic Psychology," to which

he intends to devote later volumes. Analytic Psychology has two divisions. The first deals with the "general analysis of consciousness". It is concerned (vol. i., p. 36) to "ascertain the number and nature and mutual connexion of those ultimate contents of consciousness and modes of being conscious which do not admit of genetic derivation, but at most only of definition and description. This department of Psychology is purely analytical and largely introspective. The point of view proper to it is statical, not dynamical. It is not concerned with the transition between one state of consciousness and another; its aim is to discover the ultimate and irreducible constituents of consciousness in general." The second division of Analytical Psychology has to investigate "the general laws and conditions according to which change takes place in consciousness". This division is still analytic, since its method is an "analysis of what takes place in the fully developed mind". A Genetic Psychology would undertake the further task of expounding the stages in the development of the individual mind. Of the two divisions thus indicated in our author's work, the first considers, in book i., chapter i., the principle of division of ultimate mental functions. In chapter ii., the "Analysis of Presentations," in chapters iii. and iv., the forms of "Apprehension," in chapter v., "Belief," in chapter vi., "Feeling and Conation," are defined and illustrated. The second part depends, in a measure, upon the theory of the nature of mental activity expounded in the opening chapter of book ii. But the most noteworthy and original developments of our author's theories concerning the dynamics of the mental process occur in the later chapters of book ii., which fill the second volume.

Of the line of discussion thus sketched one is first disposed to remark, not indeed by way of objection, that the first of these sections certainly does not contain as much detailed study of the mere contents of consciousness, apart from their dynamical relations, as the opening statement might lead one to anticipate, especially in view of the usual customs of psychologists. We find no elaborate accounts of the distinctions of the various classes of sensations, no extended dialectics regarding the relations of "intensity" to "quality," and the like. On the contrary, our author confines himself to a general discussion rather of the fundamental "modes" of being conscious, in the sense in which Brentano distinguished such modes, than of the details of the contents of consciousness. But brevity in this region of psychology is not unwelcome, and Mr. Stout has done well to avoid repeating familiar matter. On the other hand, it may at once be said that the second or "dynamical" section of Mr. Stout's work is by no means wholly devoted to the laws of mental sequence, but continues the work of the first part by adding many valuable analyses of the contents and modes of consciousness. And, as a fact, it is in this aspect of the second part of the treatise that the present reviewer finds what he most prizes in Mr. Stout's work. Our author's conception of psychical

causation, and of the dynamics of consciousness, arouses the present writer's frequent dissent. On the other hand, Mr. Stout's analysis of the "noetic" states of consciousness, viewed just *as* an analysis of the structure and the significance of momentary and of serial conscious facts and processes, appears, as far as it goes, almost altogether admirable, except indeed in the analysis of Belief, with which I disagree. Moreover, the aspects of the knowing process upon which Mr. Stout lays stress have been far too much neglected. This makes their just recognition the more welcome. The significance of the more formal aspects of the conscious process, the importance, for knowledge, of the consciousness of mental wholes, or unities, the thesis that the consciousness of any such a mental whole does not depend upon a detailed consciousness of the parts, the allied thesis that the noetic process cannot be reduced to a mere series of mental images, the elaborate analysis of the processes whereby we become aware of the "meaning" of a train of thought—all these are features of great importance in the chapters before us. Especially must the student of logic thank Mr. Stout for the light he has thrown upon the descriptive psychology of the thinking process. And in so far as Mr. Stout, in these analyses, opposes the traditional "association" doctrines of the constitution of the conscious stream, the present writer rejoices in the confusion of the associationists.

But description is not causal explanation. A study of mental structure is not a dynamical theory. Psychical causation is not identical with psychical significance. And here, if I must speak for myself, begins my chief dissent from Mr. Stout's procedure. In the matter of the "dynamics" of consciousness, Mr. Stout takes sides with the partisans of "mental activity," while giving, to be sure, his own definitions of what constitutes mental activity and of what is the evidence for its existence. Here he necessarily comes upon especially controversial ground—ground where the psychologist has to take account of general logical and metaphysical theses as to the nature of causation, before he can make sure of his own right to assert the existence of causal connexions. Believing, as I myself do, that no introspective study of the contents, or of the sequences, or of the significance of conscious states, can determine the true nature of any causal link which binds them together, holding, as I do, that the conception of causation is one that logically forbids the verification of a causal connexion by any *one* observer of any series of facts, inner or outer, I am unable at present to accept the thesis that the psychologist can find in "mental activity," or in any aspect of the inner life, however significant, the warrant for a theory of the dynamics of consciousness. It is not then that I prize "association" more, but that I trust introspection in general less as to all dynamical questions of psychology. It is this fact which leads me to dissent from Mr. Stout's theories of psychical causation, while,

in the main, accepting nearly all his analyses of the purely noetic states of consciousness.

Dissent such as this concerns matters whose full study would lead us far into the realms of the general logic and metaphysics of causation. I may premise, however, in general, that, to my mind, whoever says "Experience proves that A causes B" is logically committed to certain assertions both about the nature of the A and the B of which the relation in question is affirmed, and about the nature of the experience to which the assertor of the proposition appeals. And these assertions are in substance as follows: First, A and B have to be conceived as facts of a universally verifiable, of a public, of a socially tested character and type. Physical facts are *conceived as* of this character, namely, as *common* objects for *many* possible observers. Secondly, the experience to which one appeals, as proving the causal relation, is not the experience of any one observer as such, but a certain *conceived common* experience of scientific observers in general. In consequence of this logical condition of the very conception of a causal connexion, I conceive that no observer can say: "I have introspectively discovered a causal connexion existent within my consciousness".

This assertion as to the logical significance of the conception of causation will doubtless call forth objection. I have no time to defend it at length here. I can only say, in brief, that I hold it because it seems to me that the whole history of the explanation of nature by men warrants this definition. Explanation of nature has always been a social affair. Men have taught one another to think about nature. The categories of human thought about nature are consequently ethnological products. In particular, the spirit of natural science grew out of two essentially social sources: the first was the commercial spirit, which taught men exactness in the definition of facts, and especially in the *quantitative* definition of facts, since commerce, as a social process, forced men to measure and weigh goods, and to define contracts; the second was the spirit of industrial art, whose traditions, in order to be passed on from generation to generation, demanded exactness in the definition of processes. Now both commerce and art deal with socially common objects, in so far as they are common. And both the industrial and the commercial spirit require the agreement of various men about facts *conceived as* common to them all, and, therefore, as relatively independent of any one of them. The things bought and sold, the contracts executed, the processes of an art taught by the master to the apprentice, are all viewed as exact, as definable and as subject to law, precisely in so far as they are also matters of tradition, of agreement, of social community. Thus first developed the conception of fact subject to natural law. The exactness of the law was the obverse aspect of its socially common character. The conception still bears the marks of its origin. Science inherited and developed this conception. As a fact, no student of physical science conceives natural fact as properly the

exclusive object of any one observer's experience. He conceives such fact *as* fact that *can* be observed in common by many. And the laws of such facts are conceived as laws precisely in so far as they are conceived as objects of a possible social agreement, valid for all men.

But if we thus define natural law in general, then we must carry over this concept into psychology. What an observer can, as psychologist, hope to say about the natural laws of mind is, substantially, that our common experience of human nature, as observed within and as *also* expressed without, in the words, gestures, deeds, conduct and rational life of men, proves, upon the basis of the general postulates of science, that certain causal relations exist. But the objects of such a common and social experience of human nature are never mental states alone, observed by introspection. For the introspective observer is, as such, watching what, by hypothesis, nobody else can ever observe, namely, his own inner states. The objects of our general social knowledge of the ways of human nature are always conceived as psycho-physical processes, that is as mental phenomena *expressed in* physically observable words, deeds, gestures, blushes, laughter, tears, and other such processes. Only of these *psycho-physical wholes* can causal or "dynamical" relations be psychologically predicated. Hence, as I should maintain, introspection, as such, has no right to discover any "dynamical" connexions —not because introspection is vain, nor yet because the "associationists" are right, but because the causal concept forbids the purely introspective, that is the essentially immediate and lonely discovery of any causal relations. For causation "marries universals," and universals of a peculiar type, namely, universals conceived as the *common* objects of the experience of many.

It is this general logical scruple that determines my own inability to follow Mr. Stout's dynamical explanations of conscious processes, or to believe in "mental activity" as anything essentially causal. On the other hand, I can follow the discussions of the so-called "active" processes with a full sense that the author is everywhere analysing the inner and genuine significance of conscious events in a profoundly important way.

So much for purely general comments. They may serve to determine the plan of the following observations, which will be devoted first to the dynamic, and secondly to the more strictly analytic aspect of our author's psychology. That we thus begin with the aspect which will provoke our principal dissent, may serve to enable us to do all the more justice to the other aspect, when we express later our agreement.

II.

If we view psychology as a science that deals with the "laws of mind," precisely as a physical science deals with the laws of

nature, we find Mr. Stout, in his opening chapter in volume i., discussing, with agreeable brevity, the general scope and methods of our science. The psychologist (p. 4) has a right to take account of any uniformities that can be observed or inferred in the course of mental events themselves; and is not forced to proceed to physiological or other extra-conscious explanations, except in so far as (p. 20) the "existence and inter-connexion of conscious states is most distinctly and intelligibly formulated by the introduction of physiological links and co-operating conditions". The psychologist may, however, also legitimately make use of the hypothesis of the so-called "psychical dispositions," either with or without a reference to their physiological aspect. In this way it becomes clear that the psychologist, as such, is primarily interested in detecting, if possible, uniformities *within* the field of consciousness. Where these uniformities fail him, he proceeds to fill up the gaps by appealing to "psychical dispositions" whose nature is so far more or less hypothetical, and then, on occasion, to the physiological bases of these dispositions. In order to discover his facts, the psychologist appeals to "introspection," to "retrospection," and to communication with other minds. Of these three methods, Mr. Stout considers (p. 14) that the third is a "derivative method which presupposes the other two, although they do not presuppose it". He continues by observing that "there is no such a thing as direct observation of other minds; all that is immediately perceptible consists of sensible signs and tokens of inward events; and these sensible signs and tokens are interpretable only through knowledge attained by introspection or retrospection". Physiological knowledge in its present states of development is (p. 26 *sqq.*) of secondary importance for the psychologist; and (p. 34) "it is clear that psychology must do the main body of its own work on its own lines"; and (p. 35) "it is idle to require psychology to wait for the progress of physiology".

When one has such a conception as this of the means by which the psychologist is to discover the laws of mental processes, we naturally inquire what types of laws one believes oneself to have discovered by those methods which, beginning with introspection and retrospection, regard all other psychological methods as secondary to these. We shall probably not be mistaken in asserting that Mr. Stout finds these uniformities especially exemplified, in so far as they are accessible to direct introspection, in the early chapters of his second book, especially in the chapter on "The Concept of Mental Activity," and in the chapter on "The Process of Attention". Numerous, and decidedly valuable, generalisations as to the laws of mental life appear in volume ii., and fill a considerable portion of our author's text. But one is especially concerned to observe that precisely where these laws are most definitely stated, they, for the most part, cannot be stated as the results of *mere* introspection. When, for instance, our attention

is called to the laws of apperception, as illustrated by the processes of language (and this is what is frequently done in the second volume of our author's work), the author cannot say that the laws as then stated are the results of anybody's introspection. For language, as such, is an externally observable and physical record of how minds in general work. Its processes (for instance the processes indicated by its grammatical form) may be interpreted by the individual by the aid of his own introspection. But the interest of these processes, as indicating psychological laws, depends upon the assumption that the processes of language do record, not how my mind in particular just now works, but how the minds of people in general have worked. If the law that one announces thus depends for its discovery upon an interpretation of certain socially significant doings of other people, the psychologist is in so far using, not his supposed primary method of introspection, but the methods above declared to be secondary, namely, those methods of social interpretation of the expressions of other people's minds to which we are all accustomed. In reading our author's later chapters, we are, therefore, constantly disposed to note that the laws which he announces as laws of mental life, whether true or not, are not laws which he has detected merely by introspection, nor laws which any one of us can verify solely by his introspection. One is thus led to inquire whether our author, or any other psychologist, is ever able to say in *purely* introspective terms: "I have observed for myself, individually, without reference to other minds, that there is occurring in me a process subject to the law that something, a state or series of states A, is always, or even very generally, followed by a state or series of states B". Very frequently, as one can see, the practical logic of the psychologist, whether he be our author or anybody else, really runs thus: "Various expressions of various people, as, for instance, the expressions that are crystallised in our language, prove that, on the whole, states of the kind A tend to be followed by the states of the kind B in a way such as to indicate a more or less exact and uniform law of sequence, although *if* any one of us were left to his own momentary introspection, and to his memory merely, he could not be sure of enough cases of such a sequence to be warranted, by the tests of inductive logic, in affirming any general law, even for himself, or for his own mind". Every man knows, of course, introspectively, a great deal about the mere routine of his own customary trains of consciousness. But such routine is so far like the arrangement of the inside of one's own house. When one knows one's own house, one can scarcely say that one has thereby learned "laws of physics". Just so when one knows, in a common-sense way, the mere routine of one's own private trains of conscious states, one has not yet learned "laws of mind". And the question is whether, by mere looking within, the psychologist ever learns true laws, even of his own mind. For introspection is subject to the peculiar defect that its facts are momentary. "Re-

trospection" is also subject to the defect that it can bring to mind but a few cases at a time. And both of them seem to exclude the application of rigid inductive methods. We may then, from the start, be sceptical as to whether the psychologist can *ever* discover, in terms of mere introspection, any general laws whatever. The confidence that our author, or that any other psychologist, has in his power to state any of the results of his introspection, as general laws, verifiable even for his own mind, actually depends upon his common-sense assurance that what he says is so far in agreement with the records and reports and expressions, or with the behaviour of other people, that, even if his supposed law has never been formally stated before, it is such as ought to be viewed as a fair account of the workings of our common human nature. Were he left to his own observation and memory, he could recall too few facts to warrant a law.

Now this fact, namely, that introspection, viewed apart from the interpretation of the reports and the conduct of other people, can very seldom, if ever, be relied upon to present to the individual psychologist any uniformities worthy to be called laws of psychology, or even laws of his own mind, is of such vast significance for the whole logic of "dynamic" psychology, and consequently for the very meaning of the term law as used in psychology, and for the whole interpretation of the nature of mental causation, that we may fairly bear in mind, as we consider the laws of mental life which our author believes himself to have discovered, the question whether he has anywhere overcome the natural limitations of introspection, or has discovered, by mere introspection, any genuine psychical law whatever. As a fact, I myself do not believe that he has done so, or that any psychologist can do so. My own belief is that mere introspection can discover no psychical law, not even a law of the observer's own mind. It can only analyse current conscious states. And, for that very reason, mere introspection can throw no light upon the true nature of psychical causation. However, this is plainly not our author's view, and, as pointed out above, the chapters where there is most prospect of finding him successful in this respect, that is of finding him able to discover by direct introspection true psychical laws, or true psychical causation, are the chapters on mental activity and attention; and to these chapters we may, therefore, briefly appeal.

On page 144 of volume i. we begin a general discussion of the meaning of the term Activity. The popular use of "Activity" often makes it a mere synonym of Causality in general. But activity means for our author, as for Mr. Bradley, something more definite, namely (p. 145), "self-caused change," or "self-determining process". The thesis that in consciousness there is activity discoverable is (p. 147) coincident with the doctrine that conscious life "has a current of its own," is "always in some degree self-sustaining," and "tends by its intrinsic nature in a certain direction or towards a certain end". In consequence, the active

processes of consciousness are contrasted with the passive processes in so far as, in the passive processes, such as mere perception, there is no reason within consciousness for the transition from the perception of one object to that of another (p. 148). "Mental activity exists when and so far as process in consciousness is the direct outcome of previous process in consciousness." Furthermore (p. 149) "in mental striving there is a tendency towards a state which remains relatively unrealised, so long as the conation continues". Processes of this sort, in so far as they have (p. 152) their "starting point and terminal point in the current of consciousness," are mental activity. To be sure (p. 155), mental activity is never pure. "All mental self-determination is indirect." For the mental process determines changes which occur outside of consciousness, say in the brain, and these changes in their turn react upon the conscious process. But (p. 156) "the impossibility of isolating immanent or direct self-determination constitutes no reason for regarding it as a fiction". For no change within consciousness is entirely determined from without. Furthermore, the conscious activity thus defined is "selective," and "adaptive". That is, what occurs in consequence of mental activity is such as to meet a mental or conscious end. Meanwhile, if mental activity is never pure, and is purely indirect, one can still say (p. 160) "mental activity exists in being felt. It is an immediate experience. The stream of consciousness feels its own current." Or (p. 166) "the process of consciousness is as such a *felt* process". And within what is felt, in the process, is included "the antithesis between the process in so far as it contributes to its own self-sustainment and development, and in so far as it is determined by conditions extraneous to itself". In addition "there is an immediate experience," in the conscious process "of its effectiveness or ineffectiveness, its freedom or constraint". And finally (p. 168) "to be mentally active is identical with being mentally alive or awake. According to this view, therefore, there can be no such thing as purely passive consciousness."

It will be seen at once that this very frank statement of the thesis that consciousness is active, contains one very curious difficulty. The activity whose existence is asserted, is admitted to be always partly indirect. Consciousness never does directly and wholly determine the sequence of its own states. What consciousness does is to determine something outside of consciousness, which something, in turn, determines a process or state within consciousness. Yet what thus *occurs* indirectly is somehow *felt* directly. That consciousness is active is immediately known. Yet the activity of consciousness is itself never quite immediate. If the rest of the psycho-physical organism failed, for extra-conscious reasons, to co-operate with consciousness, the activity would not act; nothing would be accomplished. Yet consciousness feels its own efficacy, and feels this immediately. Moreover this difficulty is by no means the only one in the theory

advanced. One who has introspectively discovered the conscious activity knows thus, directly or indirectly, that something, namely, A, with or without the co-operation of an extra-conscious factor, is the cause which produces something else, B. Now one who knows such a truth as this must surely be knowing something universal, a law or principle, if indeed he knows anything worthy to be called causal connexion. He must know that whenever A occurs under conditions definably similar to those which are here present, be these conditions themselves wholly in or partly outside of consciousness, B must follow. Unless one knows such a general principle, one has discovered no sort of causation. But at once, we may ask, how can introspection, which shows us merely that here and now, or retrospection, which shows us merely that on a number of remembered occasions, A, or something similar to A, is or has been succeeded by B, or by something resembling B, how can either of these assure us of any such general law? But if, going further, the psychologist's induction, following ordinary empirical methods, has taken account of cases sufficiently numerous to establish such a general principle, in what possible sense could such an induction, indirect, and considerately comparative of many different cases as it would be—in what possible sense, I repeat, could it any longer be called an expression of immediate feeling? Immediate consciousness can tell only that B here follows A. The immediate facts A and B, and their sequence, however momentous, are, for introspection, merely facts of the moment. They have, as facts here present to introspection, nothing but the connexion here felt. Any inductive basis for the principle that A tends, in a definable way, to be in general followed by B, must be sought outside of this moment, and cannot be here felt, as any immediate fact. But, perhaps, by the immediately felt efficacy of A, as the producer or active begetter of B, one means nothing that can be expressed, as yet, in terms of a general principle or law. One means only that A is here efficacious in producing B, whether A would ever again be thus efficacious or not. However, if this is all that the immediately felt activity, the immediately present efficaciousness of A means, *then* it seems entirely unfair to speak of such connexions as in the least parallel to those which physical science regards as causal connexions. The causal connexions of physical science, whatever you may say of their warrant, whatever theory, Humean or Kantian, you may have of our knowledge of them, are all of them conceived as universal connexions, or as connexions linking classes of facts. In consequence such connexions, by definition, are excluded from being objects of anybody's immediate experience. They cannot be felt, they must be conceived. Experience can verify them indirectly, but never present them at one time. They are objects, not of immediate experience, but of indirect knowledge. And this they are, not because the physical objects are, as such, things in themselves, but because the connexions in question are, as

such, universal, are facts whose *esse* must be, not their *percipi*, from the point of view of any one observer or moment, but their universal validity for all experience, for all observers, for all times. We are not here concerned with the question how such universally valid connexions can be asserted to be true. We are only concerned with their logical character as causal connexions. This character distinguishes them, by the breadth of the whole logical heaven, from the contents of any immediate experience as such. And consequently, if the connexions introspectively observed are connexions immediately felt, they are simply not causal connexions, unless causation is no longer to mean what it does in the world where universal types of sequence are defined.

It is plain, however, that our author, in common with most partisans of mental activity, believes that the connexions immediately felt in the conscious stream are capable of being stated in terms of universally verifiable principles. In other words, he doubtless believes, as appears from his whole discussion, that when you go beyond the immediately felt connexions, and compare your own experiences with those of other people, you can indirectly make out that such connexions do stand for a sort of efficaciousness which we can express in universal terms, and verify by ordinary inductive methods. Thus, I attend, and am said immediately to feel my attention to be efficacious in guiding the stream of consciousness. So far I have immediate fact, and not yet general principle. But I compare notes with others, and am supposed to discover reports that agree with mine as to the nature of this immediate feeling about attention. Moreover, in observing people, I note all sorts of indirect expressions of this "efficacy of attention". I thus verify my own impressions, and become assured that mental activity is something of a universally valid meaning. But now, as one must still insist, What is it that I discover when I thus compare notes, and observe the general indications amongst men regarding the causal relations of attention? And one must answer, In case of such comparison I discover, upon the basis of ordinary inductive methods, certain generally verifiable uniformities, certain objective regularities of scientific experience. But what are these uniformities? Are they uniformities in the sequence of purely internal or mental states? Answer, No. Every mental state is, by hypothesis, observable, introspectively, by one observer only. But inductive science is, logically speaking, always concerned with what is *conceived as* the universally observable. And now what is, on the basis of the presuppositions of ordinary inductive logic, universally observable about the mental sequences? I answer, with the use of the formula that has lately been employed, in a slightly different way, by Avenarius: What is universally observable is that, at the time when men, viewed as physical or psycho-physical organisms, either "behave as if they attended," or "report" that they are

attending, that is, express, in what Avenarius calls their *Aussagen*, that they "do attend," *then* there uniformly follow certain other observable phenomena, which may be described as reports or expressions of "clearer and clearer comprehension," or of "improving acquaintance with objects," or of "better adjustment to the environment," according as the attention has appeared to be long continued or minute. Now one who asserts this inductively verifiable law, asserts the efficaciousness of attention in the only sense in which such efficaciousness can become a principle in psychological science. What ultimate epistemological warrant anybody can have for such inductions belongs elsewhere for consideration. It is enough here that the assertions of all inductive psychologists, including our author, in so far as they are assertions of general principles about attention, or about any other "active process," are just such inductive assertions about human nature in general, about the behaviour of mankind, viewed as a universally legible psycho-physical expression of mental states. But all such assertions are indeed "indirect". Nobody's immediate introspection can give them any direct logical warrant. They stand or fall with the validity of the social consciousness, and of the general process of induction. The causal connexion that they assert is, as it stands, not a connexion observable within the field of introspection, but a connexion *between one psycho-physical total and another.* Viewing human nature in such wise that certain expressions, reports, gestures, words, or other manifestations, are regarded as inseparable from certain more or less definitely legible mental states, whose presence is assumed to be well known, and whose interpretation is assumed to be upon general social grounds valid for all psychologists, the psychologist inductively makes out that the psycho-physical complex A (an enormously complicated total of physical activities, of nervous conditions of these activities, and of accompanying psychical states) is connected, according to definable principles, with another psycho-physical complex, B. And thus, and thus alone, can an empirical psychologist define in universal terms, causal connexions. Now connexions thus defined cannot be identical in contents with connexions immediately observable by the introspective student of the conscious stream. It is useless to try to discover the causal laws in immediate experience, when the laws, just as soon as they become laws, refer to what is not and cannot be immediate, namely to the conceived objects of a universally valid scientific experience of complex psycho-physical uniformities. On the other hand, in so far as such uniformities are discovered, they cannot verify what immediate experience discovers, because they refer to different objects from those present in immediate experience. In brief, then, in so far as mental activity is an object of direct introspection, it has nothing to do with the causal laws of mind. And, on the other hand, in so far as causal laws are discovered by the psychologist as universal principles, they cannot be used as proving that one

has observed rightly the nature of the mental activity said to be present in immediate experience.

I regret the somewhat recondite nature of the foregoing reference to the general logic of the causal conception. While I have developed this conception more or less independently in certain previous papers of my own on the general problems of knowledge, the conception of psychical causation here concerned has close relations to some of the analyses of Avenarius; and I may refer to the latter's observations on the nature of psychological experience as, at least, helping to make my own notions, even in this rough statement, somewhat intelligible, despite the differences between the two theories of causation. And the prominence given by Mr. Stout to his own conception of mental activity, and to its logic, must be my warrant for referring at such length to first principles as I criticise his views. For Mr. Stout makes the experience of mental activity, and of its various hindrances, the source of the most essential features of feeling, of belief, of conation, and, in a large measure, of knowledge. If my criticism is well founded all the essentially "dynamical" aspects of his theory must be seriously modified, as a brief consideration will still further show.

For if I am right, psychological laws of a causal nature are, like the causal laws of physics, all of them the objects of a certain highly indirect and "conceptual" type of experience, the experience of "the psychologists" or of the "students of human nature," viewed as the observers to whom are present the essentially "common" facts of their world of scientific knowledge. And these common facts which the psychologists are conceived as knowing, are not the mere sequences of mental states in any one observer's immediate field of introspective knowledge, but the uniformities of the psycho-physical realm called, in general, the "realm of human nature". My proof, so far as the present case goes, may lie in the fact that Mr. Stout, like any other psychologist, devotes himself, almost altogether, in concrete cases of psychological induction, to reporting and to commenting upon just such common facts; and he uses introspection, for the most part, only to illustrate here and there what is viewed by him as commonly observable. Whenever he announces any definite laws, apart from the general existence of "mental activity" itself, he appeals to language, to pathology, to childhood, to mankind in general, as furnishing the proofs for his inductions; and he feels sure of these latter because he gets such social verification. But now what I further assert is that any thus socially verified psychological law is, *ipso facto*, never a law about merely mental facts, but always a law about psycho-physical processes. To state it as a purely mental law is to state it in a false abstraction. And this is true, not merely because the mental processes contain "gaps," or are inwardly "incomplete," but still more because social verification, as such, faces series of psycho-physical facts. State com-

pletely your socially verified psychological uniformities, and they run not thus: "All men, after feeling A, feel B"; but rather thus: "Whenever men physically express or report that they feel A, thereafter they report, or otherwise physically express, that they feel B". For example, if we wish to state the whole of a familiar psychological induction, we ought not to say merely that: "Violent emotions, in normal minds, lead to feelings of weariness"; but rather that, as our whole "common experience" of normal mankind shows: "Violent expressions of emotion, in case of people who are otherwise normal, are ere long followed by symptoms of exhaustion, amongst which are, normally, symptoms that the sufferer feels exhausted". To state the case thus gives us the causal linkage as known to the observers of human nature. And exceptions to such empirical laws, as in case of abnormal nervous conditions, are thus placed in the right light for later study and explanation. If this, however, be the case, our entire conception of psychical causation must be altered accordingly. The physiological facts and the psychical dispositions do not merely serve to fill out gaps in the series of inner or mental causes and effects, but they are an essential part of every causal series known to the psychologist. We cannot, for instance, maintain, as our author does, that, since we are primarily conscious of the efficaciousness of our will, we are able to arrive at a belief in physical reality, or in other sorts of reality, in so far as we become aware of limitations to this efficaciousness of consciousness, and so of conditions imposed upon our will and alien to it. For our will can be viewed as causally efficacious only after we have already formed the conception of physical and of psycho-physical causes. With the alteration of our author's theory, thus rendered necessary, would change very much indeed of his doctrine as to the dynamics of consciousness.

Meanwhile, however, as our author may well insist, the facts of consciousness, expounded in his chapter on Mental Activity, remain. There *is* attention in consciousness; there *is*, what all men agree to call, striving for ends; there is, unquestionably, the mode of consciousness which he denominates conation. What account shall one give of this mode unless one regards it, with our author, as an instance of the efficaciousness of the conscious process, which thus shows itself as at least partly "self-sustaining"? Must one fall back upon the position of the associationists? Must one define all this as due to a mere "passive" sequence of states?

I reply by saying that our author comes very often so near to what seems to me the truth in this matter that I wonder to find him caring for that mere bauble, that mere abstraction of indirect experience, called "efficaciousness," when the rich inner life which he is analysing furnishes to him the characters that he so elaborately defines, that, as against the associationist, he so admirably characterises, and that constitute, after all, what really makes

conscious life worth living to all of us. Efficacy we do indeed all of us desire in the abstracter scientific sense of causal efficacy; but not one of us, as natural man amongst men, cares in the least, apart from artificial theological concerns, or from psychological and philosophical theories, whether his causal efficaciousness, in his empirical world, is ever purely psychical, or is always psycho-physical. It is the man, the whole man, body and consciousness together, whose causal efficacy in the sight of gods and men, we desire, in so far as we ever think of that aspect of our nature that science more abstractly defines as our causal aspect. On the other hand, quite within our own consciousness, we do, indeed, in so far, "immediately" follow with intense interest, our hopes, strivings, ideals, in general our conation, or what our author calls our activity. This "activity," empirically speaking, does normally pass through stages, very much such as our author so well defines—stages of vagueness, of growing differentiation, of a more definite apperception of our systems of means and ends, and, finally, of the dying away of each particular striving in the attainment of its ends. All this any one of normal skill can observe introspectively, for this is what all men are found actually expressing in speech and in deed, as the sense of their inner life. But now, *What* is this activity immediately observed to be when viewed through introspection? Causally effective? If I am right in my definition of causation, that is logically impossible, since introspection cannot observe the genuinely causal conditions and consequences of inner states and processes. What then? I answer that what is introspectively observed is precisely this, that the inner life is normally full of significance, of meaning, of success, and of defeat (as contents of experience, not as cases of causation), of hoping and of the sense of striving, of longing, of desire,—yes, and of insight too, of judgment, of conception, of rationality—in short of whatever gives consciousness, taken in brief or in long stretches, its inner value, its total presence as something that expresses, embodies and possesses worth and good sense.

Now I repeat that consciousness has this directly or immediately teleological quality, this essential meaning, is a fact whose importance seems to me to be rather obscured than illumined by confusing concrete meaning with abstract efficacy, good sense with causal power, rationality with capacity to accomplish the causal production of deeds, and sustained significance with "self-sustaining process". Yet the whole tradition of the partisans of psychological activity seems to me to involve just such a confusion. What the psychologist has a perfect right to say is: That the causal processes which he finds in his essentially psycho-physical world, a world of minds whose inner states are outwardly expressed in physical states and movements, that these causal processes, I say, are *such as* to render possible, and (so far as experience indicates the fact) to sustain, precisely those psycho-physical conditions whose inner aspects are significant conscious

processes. This the psychologist must say, because such is the fact, in so far as the psycho-physical processes are normal. But to say this is not to say that introspection discovers any causal laws, or that the significance of consciousness is, as such, the causal efficacy of consciousness, or that you can explain how consciousness comes into being, or how it sustains itself in being, by analysing the profoundly interesting inner fact that while consciousness normally goes on, it always means something.

What interests me, therefore, I confess, about the facts grouped together by our author as facts illustrating mental activity, is not that they prove any causal efficacy, but that they introduce us to the descriptive analysis of what goes on in the mind when one means something, or when a meaning grows clearer, or when a reasoning process occurs. It is precisely this analysis which has heretofore been so neglected by psychologists, and which our author expounds in that portion of his discussion to which I must next turn. Here our disagreement, as stated above, will give place to an assent which is very frequently almost entire.

III.

Viewed, not dynamically, but in the light of an analysis of its contents and modes, consciousness is subject to the general principle that its facts normally mean something, and that, since the meaning of past experience constantly tends to be taken up into the present meanings, and to be recombined in new fashions, consciousness normally tends towards what one may term the "evolution of meanings". This teleological character of normal consciousness is comparable to that teleological character of the vital processes which is so fundamental a datum in biology. To this our author, like Avenarius, makes frequent reference. Precisely as the biologist, however, makes little of the attempt to explain such teleology by means of "vital forces," conceived as self-sustaining causes, precisely so I myself should maintain that the parallel conception of "mental activity," or of the "self-sustaining" causality of the conscious process, is of little service in comprehending the causal relations of mind—relations which, logically speaking, must have psycho-physical totals for their least possible units. But, on the other hand, the psychologist is as interested as the biologist in considering, in analysing, and in interpreting the teleological character of his facts and processes. Since, in the psychologist's world, this teleological character belongs to the conscious aspect of the process, the psycho-physical nature of the outward expressions of the inner process does not now stand in the way of an effort to interpret what happens when inner meanings develop. To interpret what happens, to follow it through its successive stages, to study the laws of the evolution of meanings, and the laws that govern the growth of the significant series of states that, in their wholeness, constitute conation, just

in so far as these series embody the fulfilment of aims, and the success of intentions—all this, to my mind, is something which is wholly different from any causal explanation of mental processes. And just such a descriptive psychology of the processes whereby meanings and purposes get conscious evolution and inner expression, constitutes that aspect of our author's work with which I find myself in harmony.

His opponents are here the "associationists". To my mind the latter are just as wrong in their causal explanations as is the doctrine of mental activity when this doctrine appears as a causal theory. For the associationists, in the stricter sense, more or less completely ignore the psycho-physical aspect. But laying aside causation altogether, the associationists are wrong in their analysis of the teleological aspect of consciousness, and are wrong in fashions that our author very skilfully exposes. They are wrong in so far as they try to reduce the mental wholes which constitute meanings to mere sums or series of elements. They are wrong in so far as they try to reduce all mental values to variations in the quality and intensity of mental images. Hence they have no theory adequate to describe what our author calls "apperceptive systems"; and they are unable to define the nature of our consciousness of relationships. Our author meets them with great success by means of his theory of "noetic synthesis," and of the related conscious processes.

For this theory he prepares the way in chapters iii. and iv. of book i., where he deals with "The Apprehension of Form," and with "Implicit," and "Schematic," "Apprehension". The "Form" of a mental whole or series of states is something that, as in the case of a melody, or any other typical whole of conscious states, is relatively independent of the particular constituents of the whole. The whole can be apprehended with very various degrees of clearness as to the plan of its constitution, and as to the precise relations which it involves. The whole cannot be analysed into any sum of elements or of relations. In consequence, the nature of any whole can be, to any degree, "implicitly" apprehended. A typical example (p. 79 *sqq.*) is that of the meaning of a word, which can be apprehended apart from imagery, and (p. 86) "without discernment of the multiplicity it really comprehends" Thus it is in such cases, as if (p. 95) "the multiplicity were somehow wrapped up in the distinctionless unity and were struggling to unfold itself". If we dwell upon such a whole, it tends to get expressed in a more explicit apprehension of its parts, and (p. 96) in "so far as the implicit idea or perception of a whole determines the successive emergence of its parts in consciousness, we may apply to it the term of 'schematic apprehension'"

Our author is not the first to take note of this aspect of consciousness; but his development and application of his principles is peculiarly minute and consistent. The principal cases are considered in the second volume. "Noetic synthesis," in general,

is defined as the union of presentational elements in so far as they relate to a single object, or in so far as they are "specifying constituents of the same thought" (vol. ii., p. 1). Such synthesis appears already in simple, still more in complex, perception, where no mere union of presented and revived partial experiences constitutes the total perception. "The percept of the whole is not the sum of the percepts of the parts" (p. 20). When we perceive what we get is a whole object "schematically apprehended" through various, and often through successive, presentations of some of its parts. The inexperienced parts of the whole we do not necessarily image. We know in advance *how to hunt for them.* We thus schematically anticipate them. Our sense of what the whole object is, is like our sense of the meaning of a word. The parts presented *mean* the whole, over and above any mere association of part with part. A good example of this sense of the whole is given by our unvisualised apprehension of the insides of objects (p. 24). In general, in perception, one has a "premonition of the whole object" before proceeding to observe or to image the parts. One knows that: "I can if I choose" find or image this or that part not yet presented. This is noetic synthesis (p. 25). It is involved on a higher level in "ideal revival" (p. 31). Combined with retentiveness, noetic synthesis gives us "apperception" (p. 40). For "when we consider a noetic synthesis not merely as involved in this or that conscious process, but as a mode of mental grouping which persists as a disposition when it has ceased to operate in actual consciousness, we have the idea of an apperceptive system". In other words, when we have a revivable system of ideas, or of dispositions that determine ideas, and when this system is such that (p. 115) "its constituents are partial apprehensions of one and the same whole, so that their relation to each other is conditioned by their relation to the central idea of this whole," such a system is called an apperceptive system. Examples are: mentally conceived plans of action, which are capable of being long held, revived at pleasure, and adapted to various circumstances; or, again, conscious definitions of classes; or fashions of intelligent behaviour, such as are involved in speaking French or German instead of English. In all such cases whatever detailed ideas or images are in consciousness form but parts of one total mental attitude towards some real or ideal whole of objects or ends. The process of apperception itself is the process whereby such an apperceptive system "appropriates a new element or otherwise receives a fresh determination" (vol. ii., p. 112). Such appropriation involves an assimilation of the new elements to the constitution of the whole system, but cannot be reduced to assimilation (p. 118 *sqq.*); and herein Mr. Stout rightly differs from those Herbartians who conceive that apperception may sometimes be purely assimilative.

Meanwhile, all such synthetic apprehension of total meanings not only embodies systems of ideas, but fulfils the purposes of

conative processes. To know involves willing. To will involves knowing ends. To develop a process of conation means to become aware of an apperceptive system wherein means are considered as in relation to an end, and partial acts are apprehended as parts of one whole action, whose schematic apprehension constitutes the unity of one's voluntary plans. The parallel life of cognition and conation (chap. vii., pp. 82-109) is at once a life of seeking ends, of becoming conscious of what they are, and of determining special acts and insights by reference to the whole whereof they form part, and whose implicit apprehension precedes and teleologically determines the apprehension and the existence of the partial volitions and cognitions. All this our author (p. 82) takes to be a verification of his own theses as to the causal efficacy observable within the conscious stream. For my own part I accept it all in so far as it is a description of that rich life of meanings, and of the evolution of meanings, which constitutes the very essence of both intellect and will; but I find in all this nothing but the brute fact that consciousness, as it comes, finds itself full of meaning, and normally grows in meaning as it flows. The causal explanation of all this, in so far as there is one at all, belongs elsewhere. But the actual union of knowing and striving, of conation and cognition, of meaning as the attainment of insight, and of meaning as the fulfilment of hope and desire —all this union I fully accept, and I also fully agree that, in the determination of all such unions and of all such meanings, the idea of the whole is always prior to the parts—prior logically, prior teleologically, and prior just because if there is to be any meaning at all in consciousness the whole must appear there *as* prior to the parts.

Very brilliant seems to me, furthermore, the vindication of similar principles in the descriptive analysis of the series of conscious states in the cases where the revival of former "dispositions" is a condition of the present rational meaning of conscious states. Here (in chap. vi., pp. 43-81), under the title "Relative Suggestion," we learn that the reproduction of former states, *if* it is to serve the present ends of rationality, must be such as to be not, so to speak, literal, but rather formal, so that recalled wholes become capable of formal adaptation to present conditions, and so that new wholes can get formed through such adaptation of old forms (rather than of old contents) to the needs which present experiences determine. Examples of such revival of relative wholes, and of such adaptation of these wholes to new cases, we have in the power to sing an old melody in a new key, or otherwise to transfer a "pre-existing form of combination to new matter," matter with which the old form then, on occasion, blends, producing sometimes a result which may be very original, as a new poetic composition is original, although it retains the author's former style. This adaptive type of recall, whereby the past dispositions are not so much literally revived as plundered of their

significant wealth for the sake of current conscious needs, belongs once more to the most teleological aspect of the conscious process. From this point of view present consciousness appears, in relation to past consciousness, as a present construction through the use of former syntheses. That such is the character of the recall in case of rational trains of consciousness is well made out by our author, although, once more, the causation of the process is not to be made clear by any study of its meaning.

On the basis of such analyses, our author proceeds to a study of the thinking process proper, in its relation to language. Into this latter study I should be indeed very glad to enter did the limits of this paper permit. But the opportunity given to me has already been far too extensively used; I cannot venture to trespass further. There is space only for a summary statement of my attitude towards all such analyses. On the whole I accept them thoroughly and admiringly, precisely in so far as they are analyses of the immanent teleological constitution of the stream of consciousness, and of its various momentary and serial parts and regions. Such analysis is, moreover, of importance far beyond the range of psychology proper. It is a relief to meet with a psychologist who thoroughly appreciates that consciousness is not a mere flight of more or less associated contents, but is normally an organised system, or a series of such systems. To be sure, our author, in these days, is not alone, but his companions are still none too numerous; and there is certainly room for just such Analytic Psychology. But all such analysis is like a critical study of the actual constitution of a work of art; it is essentially immanent and teleological analysis; it does not and cannot furnish us with causal explanations. It cannot tell how the work of art is causally produced or sustained. Its laws, although socially verifiable, are here still laws of the inner conditions which make meaning possible. They are, therefore, essentially conditional laws. *If* meaning is to be possible, *then* consciousness has to be such, in its moments and in its series, that the whole appears as furnishing a *schema* that gets implicit expression through the parts. *If* consciousness is to possess such meaning, consciousness cannot be merely a series of associated images. *If* consciousness is to express personal life, cognition must be the embodiment of conation, ends must appear in consciousness as progressively attained, and conscious life must be *viewed as* an evolution of plans, and as a pursuit of ideals. A thorough-going analysis of mental life from this point of view is not only possible; it is one essential part of the work of a complete descriptive psychology. Yet I cannot believe that this one reaches an insight into the causal laws of mind.

Yet I may, nevertheless, go further, and may say plainly that I fully believe that one does thus reach truth, that is, metaphysically speaking, much deeper than any truth expressible in causal terms. In trying to sunder the two aspects that our author, to my mind, seems to confuse, I have really meant to vindicate what

seems to me the most valuable aspect of his work. Speaking as a student of philosophy, I hold that the category of causation is, metaphysically speaking, a relatively superficial category of what Mr. Bradley would call the world of "Appearance," and that the categories of Meaning go very much deeper into the heart of the Real than any psycho-physical or other causal explanations can ever do. Hence I regard our author's analyses as concerned with the descriptively psychological aspects of the really most vital truths about mind; and when I say that he seems to me mistaken in regarding his psychological theories as concerned with mental causation proper, I desire only the more earnestly to insist that his account of consciousness seems to me to describe, so far as that is possible, something far deeper than mental causation, and to give us what, for philosophical purposes, is much more important than causal explanation. In the last analysis Reality is not causally explicable, and causal explanation is nothing ultimately real. On the contrary, the Real is essentially something that has meaning; and the best account that we can give of it will always be teleological. Hence an Analytic Psychology, in our author's sense, can only gain in wealth by declining to undertake to pay the debts of causally explanatory psychology. As for the latter, its realm will always be psycho-physical; its methods will be those of socially verifiable inductions about the laws of human nature; and it will make little, in the long run, of "mental activity"; while, in its turn, "mental activity," if interpreted as a name for the significant structure and process of consciousness, viewed as a fact, will refer to something much nearer to the absolute reality than is the world of psycho-physical appearance.

Herewith must close this inadequate effort to distinguish in general between what arouses my dissent and what calls forth my assent in this strong, independent, and extremely subtle treatise. There remains very much interesting detail, into which I cannot here enter. May these volumes find the readers that they so well deserve.

JOSIAH ROYCE.

Geschichte der neueren Philosophie. Eine Darstellung der Geschichte der Philosophie von dem Ende der Renaissance bis zu unseren Tagen, von Dr. HARALD HÖFFDING. Ins Deutsche übersetzt von F. BENDIXEN. Band II. Leipzig: O. R. Reisland, 1896. London: Williams & Norgate. Pp. 677.

DR. HÖFFDING closed the first volume of his *History of Philosophy* with Rousseau and the French Illumination; he begins the second with a short book on the German Illumination and Lessing, after which he proceeds to Immanuel Kant. Next he

deals with 'Romanticism in Philosophy,' a title under which the Idealism of J. G. Fichte, Schelling, and Hegel, and the Pessimism of Schopenhauer, find their place. His ninth book takes up the subject of Positivism—in the wider and narrower senses of the word—in England and France. He concludes the whole with a book on the history of philosophy in Germany between 1850 and 1880. We shall do our duty best, both to our readers and to our author, by giving some account of his treatment of certain epochs, and writers whose works have made epochs, in the history of Philosophy. We will select as our first and principal specimen his presentation of the philosophy of Kant. If critical ability in literature is measurable by the critic's appreciation of Shakspere or Goethe, it seems no less true that the critical ability of the philosopher may be estimated by his faculty of appreciating Kant.

Höffding traces the development of Kant's philosophy through its several stages; noting carefully the influences upon him of preceding or contemporary thinkers. When Kant described the course of philosophy as passing from dogmatism through scepticism to criticism, he described truly enough what had occurred with himself. At first, pressing the Newtonian demand for a *vera causa* of all phenomena farther than even Newton had done, he was not content, like Newton, to assume that the present motions of the celestial bodies are due to the immediate *fiat* of God. The wildest *natural* hypothesis appeared to him more rationally acceptable than the *ignava ratio* of such supernatural explanations. Hence at an early period he formulated the famous nebular hypothesis. While thus engaged his enthusiasm was baffled, if not cooled, by difficulties intrinsic to the idea of causation. Hume's scepticism had infected him. The instrument which alone could explain how things came to be as they are in the cosmical system—the causal conception—became itself of questionable validity. Unless the question as to the validity of the causal conception could be cleared up, his cosmical speculations were doomed to be fruitless. Other conceptions likewise, as he found, required examination; among them, the conception of the soul then in vogue seemed to be of doubtful worth. Between scientific impulses and speculations on the one hand, and, on the other, doubts as to the faculty of acquiring objective knowledge, he lapsed for a time into scepticism; from which he at last emerged in the way described so minutely by himself in his greatest work—the *Critique of Pure Reason*. The thought which marked the end of his scepticism, and the beginning of his constructive thinking, is that which he himself compared with the thought of Copernicus. "As it is due to our standpoint on the earth that the heavens seem to revolve round us, so it is due to the nature of our own sensibility that we perceive things in space and time." What Newton had regarded as absolute space and time, thus became for Kant forms of our intuition. The laws of space and time are those of our sensibility.

If so, all experience must be subject to their laws, *i.e.*, the latter are valid for all experience. Hence the fact that the truths of Mathematics are universally applicable to Nature. While, however, validity is thus secured for the laws of nature and science, it is only on condition that their claim to validity beyond this sphere should be surrendered. Kant saved the objective truth of science by throwing overboard all pretensions to (dogmatic) metaphysics. This process of criticism was not complete, however, until he had applied it to understanding as well as to sensibility. Understanding is a faculty of synthesis. We cannot "understand" except by combining objects in the ways indicated by the 'categories'. The 'synthetic unity' is the condition of intelligence as well as of intuition.

The question whether the sensibility also possesses synthetic power is one which must be answered by reference to Kant's maturer thinking, and involves a previous question as to our right to separate sensibility from understanding as Kant does. There is no doubt that Kant at first did ascribe synthetic power to the sensibility, but just as little that this ascription is, according to his maturer thought, unjustifiable and that synthesis in every form is the work of understanding.

The application of the 'Copernican principle' to the understanding as well as to the sensibility rendered Kant's *Erkenntnistheorie* complete. The immediate consequence was that we cannot in any way know 'things *per se*'. We cannot know the soul, the world, or God. We may *think* these, but we cannot intuite them; and thinking without perception is hollow. Without given intuitions the understanding has really no objects before it; though it may have adventures in dreamland or ghostland.

In this thought of synthesis as the ground of conscious activity, says Höffding, Kant found a conception which advanced him beyond the atomistic psychology, the basis of empiricism, as well as beyond the spiritualistic psychology on which most idealist systems were founded. Against empiricism, which would treat the unity of the spirit as a bare result of manifold impressions, he asserts the unifying activity of consciousness as the very mint-mark of spiritual life, which refuses to be explained by any merely external influence. Against spiritualism, which had observed this mark, but referred it dogmatically to a mystical substance behind consciousness, he asserts that our knowledge is incapable of carrying us farther back than the foundation of spiritual life, so far as this foundation *enters into experience*. At the same time he advanced beyond the psychology of the Aufklärung, which took account only of the "clearly conscious," of that which can be seen in the sunlight of intelligence. Synthesis is, indeed, the continual presupposition of consciousness, but need not itself come forward as an object of consciousness. It can work darkly and instinctively as an inscrutable power of our innermost nature.

Höffding arranges his exposition of Kant's *Erkenntnistheorie* in

a way equally bold and excellent, not following the laboured and perplexing statement of its author, but presenting us with a well-digested and succinct account of what the latter was really concerned to teach. He commences with the "deductions," including not merely those of the Analytic but also those of the Æsthetic; giving us Kant's 'exposition' of space and time as forms of sensibility, and, immediately afterwards, his deductions of the categories. He next (after a few paragraphs on phenomena and things *per se*) presents us with Kant's criticism of speculative Philosophy (Pyschology, Cosmology, and Theology). Finally he exhibits Kant's relation to *Natur-philosophie*. Under these main headings Höffding expounds for us the substance of the great *Critique of Pure Reason*. It would be superfluous, even if space allowed, to follow him in detail through this exposition. We who are accustomed to Caird's masterly presentation of Kant have become exacting in our demands of an expositor. The student will find in the broad outlines sketched by Höffding evidence of a study as minute, penetrating and comprehensive as that made by Caird himself; nor will he regard it as a fault that the former does not, like the latter, criticise Kant from a purely Hegelian standpoint.

We must now draw attention to some of the strictures which Höffding offers on the substance of the Kantian philosophy.

It gave Kant great satisfaction to think that his table of forms or categories was complete. Höffding, however, denies that such completeness is even attainable by Kant's analytical method. We can never be sure that we have enumerated all the "forms". As little can we assure ourselves that in those enumerated we have reached the fundamental forms. Kant was under the impression that the *Vernunftkritik* could be effected once for all, not reflecting that every attempt at a critical philosophy must start from presuppositions of its own, which are in their way dogmatical and inevitably await their turn of criticism by some subsequent *Vernunftkritik*.

Kant divides his categories into the mathematical and the dynamical groups. In fact, however, says Höffding, the concepts of *quantity* and *causality* embrace all categories, being the two leading forms of the synthesis from which all knowledge springs. The familiar criticism of Kant's derivation of the categories from the forms of the judgment is repeated by Höffding here.

In reference to the derivation of the three Ideas from the forms of the syllogism, Höffding remarks that it is still more forced than that of the categories from the forms of the judgment, being, indeed, baseless. Kant himself has shown, in his *False Subtlety of the Syllogistic Figures*, that the syllogism requires no other function of thought than that employed in the Judgment. Hence there is no need to give the ideas a root in reason separate from this. He is so far right, however, that the Ideas (soul, world, God) spring from the involuntary needs of consciousness to

attain completeness—to "hang the chain of thoughts on an ever higher peg"; to form an absolute system as correlatum of the synthesis which is the ground-form of thinking.

Having concluded his exposition of Kant's theory of "Forms" (of intuition, understanding, reason) Höffding asks—is the distinction between the three classes of forms really as sharp as Kant would have it? Continuity, causality, Time and Space, as conceived by Kant, possess an ideal completeness, to which no experience is adequate. Continuity is an idea which finds only approximations in experience. What Kant named 'forms' are, in fact, only abstractions, or ideals, which we, by the nature of our knowledge, set up and use as standards and rules of investigation. Hence the "principles" are hypotheses, not proven truths. Experience itself, in the sense in which this word is used by Kant in his transcendental proof, is an ideal; and the point which Hume, whose doubt of the causal principle Kant wished to overcome, actually contested, was that there *is* any experience in Kant's sense of the term. Kant, therefore, has not solved Hume's problem, which, indeed, is perhaps insoluble; but he has done the service of bringing into prominence a side of the problem, or rather, a side of our cognition, which Hume neglected, and has thus advanced *Erkenntnistheorie* a long way. Kant's enthusiasm for the "Copernican principle" led him to ascribe more cogency to his proofs than really belongs to them Instead of being content to represent his "forms" as types, or models, or anticipations, he tried to produce a stringent *proof* of their validity; but in this he failed.

Kant had, in his heart, as little doubt of the existence of things *per se* as he had of the validity of Newtonian science. His grounds for assuming the existence of more than mere "phenomena" are threefold. (*a*) It is improbable that ours is the only possible mode of cognition. To assume this would be like the error of the pre-Copernicans who took the earth for an absolute standpoint. (*b*) It is only as to its form that cognition has its ground in our nature, its matter, or content, being *given* to us in sensation, and having therefore a *cause*. (*c*) Reason falls into contradictions when it transcends experience, which contradictions can be solved only by assuming a distinction between phenomena and things *per se*. On the second of these grounds critics in general have fastened, declaring that it involves an illicit use of the principle of causality, which has (according to Kant himself) no extra-experiential validity. This criticism, made as early as Jacobi and Schulze, is, from Kant's standpoint, unanswerable; yet, Höffding continues, Kant would have been consistent if he had merely asserted that the *matter of cognition cannot be explained from its form*, that the varying and specific elements cannot be derived from the constant and unvarying outline. The possibility of experience ceases, indeed, if no sensations arise; but *how* they arise is a question with which *Erkenntnistheorie* has properly nothing to

do. Hume had clearly seen this when he declared the origin of sensation inconceivable, and added that the question had no importance for the special problem which he had raised. On this question Kant found himself in exactly the same position as Hume.

Kant, says Höffding, saw in things *per se* the cause not only of the matter of experience, but also of its form. If this is so, the forms are what they are only as long as their cause is constant in its function. While, therefore, knowledge founded on the validity of the forms is only hypothetical, it is no longer merely phenomenal, since it teaches us in some degree how the thing *per se* works. This point understood, Kant's whole system alters its character. Its *apriorism* and *phenomenalism* are lessened, and its *inconsistency* disappears. These three features of his philosophy are connected with his distinction between matter and form—a distinction which, even psychologically considered, is gravely doubtful.

Kant, says Höffding, does not assert the *reality* of free will as a faculty of absolute initiative in action, but only its reconcilableness with the fact that the empirical character is subject to laws of nature. According to our historian, he has failed to make good this assertion. In the first place, how can the intelligible be the cause of the empirical character if in this case the temporal relation be, as it must be, excluded? In the second place, if the empirical stands to the intelligible character as effect to cause, a purely empirical account of the origin of character is precluded. In the third place, since the intelligible character itself is no freely choosing agent, Kant's 'freewill' is no better than fatalism. The intelligible character which determines the series of human actions is itself *unalterable*.

Turning to Kant's Ethics, Höffding traces the influence upon him of Shaftesbury, Hume and Rousseau, through successive stages of thought. With reference to his final stage Höffding says: "However sharply Kant distinguished between theory and practice, yet for him both stood in close connexion. A leading thought in the *Critique of Pure Reason* was that an empirical world, a Nature, could arise for us only on presupposition of objective, universally valid, laws. The moral law he conceived in express analogy with the Law of Nature. Pure Reason is itself no phenomenon, subject to empirical conditions. The Theory of the empirical character is founded on this fact. Kant has, however, failed in his attempt to show how pure reason can be practical. He could, indeed, no more show this than he could explain how *things in themselves* could stand in relation to the world of phenomena. Kant's rationalism brought him near the point of transition to mysticism, just as mysticism (in the form of 'pietism') had previously contributed to the development of rationalism. Kant's ethical interest impels him to assign to the moral law a place in the intelligible world, or at least to treat it as the entrance to that world. Thus, as often happens, ethical idealism, by its enthusiasm and exaggeration, defeats its main

purpose. In fact, one does Ethics no service by founding it on a basis outside and beyond all possible experience.

Höffding traces with exceeding care the relationship of the *Kritik der Urteilskraft* to the preceding *Critiques*. It did not appear to Kant that the two worlds—of Nature and of Freedom—could be absolutely separate. Between both there must be a principle of unity. He had, in his previous Critiques, employed the distinction between things in our mode of apprehending them, and the things in themselves. While, however, the assumption of such a distinction belongs to the nature of our knowing faculty, it does not follow that the opposition which we (whose discursive thinking must analyse and distinguish in order to *know*) assume, or have to work with, should necessarily exist also in the essential nature of things. As Kant, in the *Critique of Pure Reason*, indicated, or hinted, that the ground of the *matter* of our cognition might be one with the ground of its *form*, and that the ground of material might be identical with that of spiritual phenomena; so in the *Urteilskraft* he investigates the possibility that the foundation of nature is one with that of Freedom. As an architect on completing an edifice breaks down the scaffolding which gave elevation for his work, so Kant does with the distinction of which he had availed himself during his previous inquiries. He retracts it when he has attained by its help a concept lofty enough to complete his structure of thought. The facts of natural beauty and natural purposiveness involve for their interpretation the assumption that Nature according to her own laws works in a manner analogous to mind. In the unknown ground at the bottom of Nature, mechanism and purposiveness may be united in a single principle. This is the profoundest thought in Kant. In it he resumes a favourite theory of his early years, that the basis of the causal connexion of things is one with that of the purposiveness and harmony of Nature. With this thought his romantic successors were fain to commence. They would begin where he left off; what he was content to leave as an hypothesis, they endeavoured to employ as a dogmatic position, a major premiss of philosophy.

Our knowledge of the Kantian philosophy must be very imperfect if we do not know its defects as well as its merits. Some of the most dangerous as well as most instructive criticism it has had to encounter was formulated even by contemporaries, such as Hamann, Herder, Jacobi, but above all, Salomon Maimon. Yet the ordinary student has little knowledge of these writers. The whole subject is so vast, that few have either the ability or the time for dealing with it adequately. We are the more thankful to Höffding, who gives us a conspectus of the intellectual forces with which the critical philosophy had to contend. It seems, from the first, to have been more indebted to its opponents than to its disciples. The latter as a rule, carrying some parts of it to extremes, brought undue discredit upon the whole. The former, while drawing attention to its weakest points,

testing it and trying it on every side, have failed to shake its hold upon the mind.

To criticise Höffding in his judgment of Kant would be a difficult task, and would lead us far beyond the limits of a review. Indeed we are, for our part, more disposed to admire than to find fault with one whose sane and balanced judgment appreciates alike the weakness and the strength of a writer to the study of whom he must have devoted a large portion of his life-work.

Proceeding from Kant to the Romanticists, we read that the spirit in which Kant's philosophy was extended in Germany was equally determined by the objections of its opponents and the attempts at its rectification made by its disciples. It seemed to lack *totality*. What prevented Kant from completing his philosophy was his assumption of a thing *per se* which led to contradictions. This is connected with his untenable distinction of the form and matter of knowledge. The cry arose—abandon this assumption! Then philosophy can be consistently carried out—on the basis of Kant's thought of the essence of mind as Synthesis. Young thinkers grew enthusiastic over the prospect thus opened up. All externality, isolation, dividedness of spiritual life would disappear. If the unity of all things could be thus shown; if all living forms could be treated as grades, or phases, through which one and the same Infinite Life extended; not only the life of the individual man, but that of the race in history, and even the life of Nature, could be reconsidered, and presented in a new and satisfactory light. The lines which separate science, religion and art would disappear, and all the discords of the soul would be harmonised or abolished. Such an ideal of cognition, however, says Höffding, may well be called romantic. With this preface he ushers in his treatment of Fichte, Schelling, Hegel, etc. It will serve to give our readers an idea of the way in which he regards them. The history of these romantic systems only makes him turn once more to their great source—the philosophy of Kant.

Positivism comes next to be considered. This and Romanticism form the lines of speculation characteristic of the nineteenth century. Höffding's account of their relative aims and methods is interesting and instructive. Romanticism and Positivism, the one starting from the ideal, the other from the actually given, seem to be the antitheses of one another. Their standpoints are opposed. Yet both are derived from the same interest, and have the same presupposition. The one as well as the other strives to apprehend actuality, only that Romanticism thinks it can grasp this subjectively, while Positivism prefers to build on objective facts. Their common presupposition is that any ideal which stands outside the sphere of actuality is false. In both the idea of evolution is dominant. Both take a deep interest in tracing the continuity of history. The attempt to reach a profounder understanding of the past and of the conditions under which spiritual life is developed forms an essential part in the problem of both.

Hence it would be false to regard Positivism as a mere reaction against the Romantic philosophy. Yet while they agree in the points stated, there is one respect in which they differ *ab initio*. Romanticism, in its enthusiasm for the *unity*, overlooks the *manifoldness* of nature. Convinced of the truth of its ideal, it thinks less of the stringent mechanical conformity to law to which all that abides in nature must submit. Positivism, laying its foundations in what is actually given, appreciates the differences and oppositions of reality, and tries to ascertain the laws according to which the phenomena of the real world occur and are developed. Positivism, therefore, finds its difficulties when it strives to rise from the actually given to the unity of thought and the validity of the ideal; Romanticism, when it endeavours to descend from its ideal heights and step into the world of the actual. It is the province of the historian of philosophy, Höffding thinks, to compare both and decide which of them is the more favourably placed for traversing the interval between starting-point and goal.

Ὁδὸς ἄνω κάτω μία καὶ ὠυτή—the saying of Heraclitus in his theory of Becoming—is a dictum which may find application also in the theory of Knowing. In the processes of ordinary thought, and even in science, the upward and the downward ways are equally useful and both indispensable, yet, for the purposes of philosophy, no man can travel either, much less both, completely. The poet's, but not the philosopher's, eye may "glance from heaven to earth, from earth to heaven". Philosophy demands that the principles of unity and heterogeneity should have even-handed justice done between them. Yet no system has ever succeeded in fulfilling this demand. We still find the Romanticists on the one hand, the Positivists on the other, in hostile camps. Such has been the case from age to age. Whether the discord in human thought, when it tries to grasp the two ways in their whole length as one, will be ever harmonised—*viderit deus!*

Meanwhile the history of philosophy remains of more value than any of the so-called systems which it contains. Among the many merits of Dr. Höffding's work, the greatest is that it succeeds better than any other with which we happen to be acquainted in presenting this history in a connected and coherent form. It impresses one with a feeling of hopefulness for the future of philosophy; tending to remove the vague, uneasy suspicion that philosophy in the past has been like unto him who twisted a rope of straw, unconscious that an ass behind him ever ate this rope as fast as it was formed. Höffding's book gives one confidence that something has been done for the solution of the highest philosophic problems; explains what that something is; and so states the problems themselves that they appear, if not destined for actual solution, at least instrumental to the higher development of the human mind. We conclude by noting with satisfaction that this work is being translated into English.

JOHN I. BEARE.

The Mental Development of a Child. By KATHLEEN CARTER MOORE. Monograph Supplement to the *Psychological Review*, October, 1896. Macmillan & Co. Pp. 150.

THIS brochure comes opportunely in more ways than one. To begin with, it is a vigorous piece of individual observation, which is precisely what is wanted to correct the common impression that the conclusions reached by a single observer—for example, Preyer—hold good of all infants. Binet, Baldwin and others have shown that this is not so: Mrs. Moore's monograph illustrates the diversity among infants still more fully. Some of her observations, indeed, deviate in a startling measure from those of her predecessors and call loudly for further "controlling" observations.

In the second place, this new record of infantile development illustrates, if I am not greatly mistaken, the dangers besetting the new path of child-observation. Women—and particularly mothers—are, as I have elsewhere urged, exceptionally well situated for carrying out a careful and continuous record of an infant's mental progress. On the other hand, the observation of the mental manifestations of an infant is especially difficult and is hardly possible save to one who has both undergone some methodical training in simpler kinds of observation and served a further term of apprenticeship as a student of psychology. How widely the untrained mother, knowing nothing of scientific responsibility, can go astray in this alluring region, has recently been illustrated in English literature. Mrs. Moore is by no means a mere dallier with infantile ways; she has a very real scientific interest in them. Her observations are often close and valuable: the aid which, as she tells us, she has received from her husband, a medical man, may have helped her here. But there is throughout a lamentable exhibition of insufficiency of psychological training. What is one to think of an observer who after telling us that she has drawn her greatest inspiration from the works of Professors Preyer and Wundt adds in a footnote that she has read "*Die Seele des Kindes*, translated and condensed by Miss Emma Marwedel and appended to her book *Conscious Motherhood*"? Why, one asks, did she not at least prepare herself by reading the very good translation of Preyer's work published by Messrs. Appleton? One would conjecture, from internal evidence, that Mrs. Moore has read hardly anything in child-psychology, save perhaps Dr. Tracy's bare epitome of its principal results, which is of course perfectly useless for learning the methods of the science. And so it results that, notwithstanding excellent opportunities, and one would say a good deal of natural shrewdness and even something of subtlety of insight, Mrs. Moore has produced a work which cannot compare in scientific value with the more modest, restricted but thoroughly informed and accurate study of Miss Shinn of the University of California.

A word or two on the faults of the work may suffice. The want of any clear logical order is simply appalling. This is seen at the outset in the classification (?) of movements. After setting forth a classification of her own (which by-the-bye sadly needs explanation) in which neither Reflex movements nor those of emotional expression occur, she afterwards nullifies her mode of grouping by bringing in under special sections these two sub-classes. "Inhibitory movements," again (by which she seems to be naming processes such as sensation which inhibit movements), come in later on under Hearing! Once more, imitative movements, though they are referred to more than once, do not appear in the classification. "Hearing" is the title both of a main section and of one of its sub-sections: similarly "Vision" is a sub-section under "Sight". It is a pity that Mrs. Moore did not give her MS. to some competent person who might at least have got rid of its utterly confused look.

The observations themselves have both defects and excellences. A glance will show how far Mrs. Moore is from the idea of a really continuous and methodical record, on the model of Preyer's monograph. The setting forth of a series of dates is deceptive: again and again gaps of weeks and even of months are at once noticeable in what is presented as a record of the "development" of some mental characteristic. Nor do the observations show the admirable scientific restraint and reticence which is surely nowhere more needed than in this field of investigation. On the contrary, Mrs. Moore too frequently gives vague statements of what *occurred* rather than precise statements of what *was seen*, and sometimes seems to mix observation proper and conjectural inference. This is the more surprising as the writer marks off a sub-section, "Interpretation," under most of her sections, though here again it is easy to see that the divisions of the subject are not adhered to. As an example of the intrusion of an element of interpretation into the record of observation I may quote the statement that "at seventy-five hours his (her boy's) eyes turned *from one object to another*" (p. 45), to which she adds, with something of *naïveté*, "the eyes were not in focus". Had the 'turnings,' one asks oneself, really anything to do with the 'objects'? This surely requires proof. One of the most remarkable of these omissions to distinguish observation proper from inferential interpretation occurs in the account of early attention. Will it be credited that an observer, who tells us that she has studied psychology, unhesitatingly maintains that because an infant, apparently in the first weeks, would gaze "at a patch of light or a moving object during a period varying from fifteen to thirty minutes" he evinces as much attention of a kind as an older child? It never seems to have occurred to the observer that his prolonged 'gazing,' so far from being close strenuous attention, as she assumes, was probably a kind of self-hypnotising. Nobody, least of all, one would say, an infant, can go on looking intently at one and the same visible

object for five minutes, leave alone fifteen or thirty. Observant teachers know well the 'gazing' of young eyes which, so far from meaning attention, points to dreamy distraction and vacancy. As Mrs. Moore herself reminds us immediately afterwards, an older child's prolonged act of attention is supported by "continual changes" which the child himself induces in the object.

Yet a student who felt repelled from Mrs. Moore's record by this and other illustrations of a want of the necessary scientific attitude of mind would lose much that is valuable. Many of the observations are new and interesting, and though they may have to be verified by other observers, they will certainly supply a new stimulus to child-study. I will rapidly go over some of the more important of these.

There is a good series of observations on the development of the thumb-sucking habit. The experiments, *viz.*, incasing each of the thumbs alternately and tying up both, were carefully carried out, and the results tabulated. This is a really careful piece of work (pp. 12, 13). Interesting, too, are the observations on the early use of the feet as tactile organs, supplementary to the hands. In the twenty-sixth week, we are told, "they invariably supplemented the hands in feeling of (*sic*) objects, the hands grasped the object first, the feet then went up to feel of it. One hand, or one foot, rarely acted alone, though the movements were not symmetrical" (p. 17). Mrs. Moore hardly explains why she rejected her first supposition that this use of the feet was a rudimentary instinct. Later on (p. 79) she remarks that the lips and the tongue were the first organs of active touch, the hands coming next, and lastly the feet. Other careful observations have to do with automatic movements, by which seem to be understood unconscious movements during sleep. The writer treats of these as secondary automatic, that is, as movements that had been acquired during the waking state. Thus she notes that the child in the thirty-second week began to roll in his crib during sleep, having previously learned to roll on the floor (p. 36). A new observation, or rather sequence of observations, is forthcoming in the account of the early stages of voluntary movement (p. 23 ff.). On the fourth day the child if touched on the cheek turned his open mouth towards the side touched. This he could not do before. The explanation is that "each time that he was to be fed the child was laid in a certain position, and the nurse, taking his head between her hands, turned it slightly to one side in order to put his lips against the nipple". On the fourth day he had gone through this experience about thirty times. This explanation strikes me as exceedingly doubtful. The pressure of the nurse's hands ought surely to have set up, if it had set up anything, a tendency to a movement not towards, but away from the side touched. Nevertheless the suggestion that passive movements of head or limb induced by another may help to develop associated tendencies which are afterwards taken up into active

movement is a striking one, and should prompt to further investigation. There is a neat little account of the genesis of a gesture-movement, *viz.*: "a lateral chopping motion of one or both arms" which served as a sign of dismissal in the twentieth month. It was, we are told, at first an imitation of the mother's action in brushing away the flies which came round the food (p. 31). It would be interesting to know whether imitation often contributes in this way to a child's gesture-language. There are, further, some valuable observations on the first localisation of sounds. Although the boy, as the result of the parents' play-like experiments, proved that he could recognise the direction of sounds in the forty-eighth week, he could at the time have had hardly any aural perception of distance. This seems to be shown by the fact that six weeks later "in calling to a dog at some distance he scarcely raised his voice above a whisper" (pp. 66, 7). Apropos of the growth of the visual perception of distance it is noted that before the sixty-eighth week the boy had no perception of distance below his own level. It was only in the seventieth week that he learned to go down stairs (p. 110). This touches a neglected side of the visual perception of distance. As a last example I may take the observation of the first localisation of pain. This, according to Mrs. Moore, followed and depended on the localisation of dermal sensation. Internal pains are said to have been localised on the surface of the body, but here I suspect there is an opening for error in interpretation. Other points dealt with in a suggestive way are motor-reactions viewed as a measure of the intensity of sensations (p. 54) (Mrs. Moore rightly views motor-reactions as an element in perception, p. 59); the first appearance of "associations of similarity" (pp. 93, 4); and the slow process by which a child acquires the knowledge of so large and complex an object as the human figure (p. 99).

I hope that I may have succeeded in showing that Mrs. Moore's monograph, in spite of its defects, contains much that is at once readable and valuable. I am disposed to think that her boy was exceptional in more than one particular. In respect of early and what may be called sub-voluntary movement he was, if the observations are correctly interpreted, distinctly precocious; yet in other ways he strikes one as backward. When, for example, we are told that there was no connexion of ideas with words during the first year (p. 95), one must infer either that the boy was almost abnormally slow, or that 'words' here mean his own spoken words. The record of the child's language, which is very slight, bears out the conjecture that his intellectual development was tardy. A bird has been confused with a fly by other children, no doubt from want of a clear perception of distance; but the calling of a cow a bird—if the cow was anywhere near the child—seems to argue unusual want of discernment. Mrs. Moore ingenuously suggests that the extension to the cow of the name "bird" rather than of "dog" was the result of a temporary fondness for the

newly acquired word "bird" (p. 124). The passage is well worth reading as a good example of the writer's happy combination of observation and thought.

JAMES SULLY.

Psychologie du Caractère. Par ALBERT LÉVY, Docteur en Philosophie et Lettres. Paris: Félix Alcan, 1896. Pp. 207.

THE reader of this work will be struck at the outset by the curious position which the author assigns to ethology. He places it between "experimental psychology" on the one side and "rational psychology" on the other (p. 1). Rational psychology considers "the origin, essence and destiny of the soul" (p. 2). It is purely "synthetic and disdaining the contingencies of terrestrial life"; while "experimental psychology" is "purely analytic" (p. 1). The author does not explain what he means by 'experimental psychology,' whether he takes it to include all psychology as ordinarily understood,—which is confined to "the contingencies of terrestrial life,"—nor what ground there is for supposing its method to be purely analytic. We have been accustomed to regard ethology, since Mill wrote his famous chapter in the *Logic*, as an applied psychology. This standpoint M. Paulhan has consistently maintained. M. Lévy has not brought forward any reasons for showing that this view is incorrect, nor has he explained whether he dissents from it, nor what precise meaning can be attached to the position he assigns to ethology as falling between these two departments of "the science of the human mind" (p. 1).

Having at last separated psychology from metaphysic, we do not wish to see it again sucked into its vortex through an attempt to represent "rational psychology" as one of the departments of "the science of the human mind". But I suspect that M. Lévy thinks differently. In taking up the position of a psychologist, he does not leave his metaphysical beliefs behind him, or use them only as scientific hypotheses where the facts cannot be explained without them. He imposes them alike on the mind of the reader and on the facts. The first part of his work is in large measure an apology for free-will, special creation, the *principium individuationis*, as an *ego* innate in us, yet not inherited or altogether inherited, but with which we are endowed at birth by an act of special creation. What the author precisely means by free-will he does not tell us, nor how it can be reconciled with an attempt to construct a science of character; still less does he point out, what any man who adopts a scientific attitude is bound to do, that type of will, if there be any, which cannot be explained without the assumption of free-will. Such a type of will must in the first place be proved to exist; and its analysis must conclusively show that

it is only capable of explanation on the hypothesis of free-will in one sense or another.

But it would be unfair to judge the author's work as a whole by this part of it. He not only furnishes an interesting historical account of the various attempts which have been made since the appearance of Kant's Anthropology toward constructing the proposed science, and adds a much-needed bibliography of the subject, but he has given the most complete account which I have yet seen of the various influences in the environment, whether social or merely physical, which go to the formation of character;—the gifts of health, beauty and strength, and their contraries; the changes of the organism from infancy to old age; the effects produced by different kinds of nutrition, by various diseases, by hot and cold climates, by the richness and poverty of the soil, by various social influences, by opinion and custom, by the impulse of imitation in the child. On the other hand he has not succeeded in formulating these influences and the changes of character that seem to accompany them as scientific laws of tendency universally valid. It is difficult to do more than to point to certain conjunctions as probable or as frequently found to exist. And among such empirical generalisations it is rare to find any careful and precise analysis of the qualities of character or of the particular change in the environment or organism which seems to produce them. Thus M. Lévy remarks that the character of the sexes, which before puberty appears almost the same, at that epoch becomes clearly differentiated, "more sweetness, timidity, delicacy and sensibility fall to girls; the boys become more active, impetuous, audacious" (p. 103). Now is it certain that these changes of character are due to a change in the reproductive organs, and is it certain what precisely they are for all members belonging to the same sex? Do boys become more active after puberty than in childhood, and what precisely does this activity mean? Children appear in general more active than adults, if we confine ourselves to the physical activity we can all see. They play and romp while the nurse sits looking on or sewing. But if we do not confine ourselves to physical activity, how can we be sure of its increase or decrease, and by what common standard can we measure physical and mental activity? And is it certain that boys become more courageous and girls more timid at puberty, or is the increase of courage of the former due to the general growth of the organism and the consciousness of increasing strength that accompanies it? Does it include moral as well as physical courage? Again, is the increase of timidity in girls due not directly to the bodily condition, but to the consciousness of a state which has to be concealed and a new danger connected with it? With regard to the last, it will depend largely on their personal attractions. If they are ill-favoured and no youth pay court to them, they will scarcely, unless blinded by conceit or stupidity, be conscious of a danger. And if this increase of timidity where it occur as a fact may be

due in part to the consciousness of a new danger in life, it will depend largely on the state of society and the grade of society in which girls are brought up, as well as upon the modesty of their character. Where women are sure of respect and a chivalrous attitude in men toward them, they will have little to fear. Do American and English girls of the better classes grow up into demure maidens with downcast looks, whose hearts flutter whenever a man approach them? And can we imagine that such types as Catherine and Marie Tonsard in Balzac's *Les Paysans* were ever made timid by the advent of puberty?

If we take next the supposed increase of sensibility with girls, what does this vague quality signify? Do they become more sensitive to all impressions of sight, touch, taste and hearing, or is it their feelings of pleasure and pain which are referred to? Do their emotions become more intense and more easily excited? And is it the fact that boys, on the other hand, become more audacious? Among boys badly brought up, in bad surroundings, with strong passions, indulging on all occasions when the other sex is spoken of in obscene language, awaiting the first opportunity to gratify their desires, the advent of puberty may make them more audacious and impudent in relation to the other sex. But among boys well brought up, and where the tone of a school is good, the effect is often quite opposite. It is between the ages of sixteen and twenty or thereabouts that the bashfulness and timidity of youths in the presence of young women becomes so clearly manifested. Their new state, of which they may be but vaguely, if at all conscious, makes them suddenly shame-faced in the society of women. But even this result, if it be certainly influenced by the advent of puberty, is largely conditioned by the preceding frequency or infrequency of social intercourse, and companionship in games and sports, between the sexes.

If we then pretend to raise the study of character to the rank of a science, or if, more modestly, we merely attempt to study it by the scientific methods in use in general psychology, we cannot allow such loose and unanalysed statements as we have been considering to pass unchallenged. In describing any change of character it is not sufficient to give the names of its qualities, as 'modesty,' 'timidity,' 'delicacy'. Such qualities must be thoroughly analysed before they can be employed with anything approaching precision. Then only shall we be able to appreciate how much truth there may be in the current generalisations about them and the causes to which they are due. Unfortunately the recent works on the subject have mainly been composed of such loose statements, which we know not how to treat because we can get no grip of the thought contained in them. An error that is trenchant and cut into clear thought and expression we can deal with, but truth or error that lies concealed in the vague thought of those words which express the qualities of character reduces us to despair.

In the general lines of his theory of character, the author seems to follow M. Fouillée. Like him he takes as his basis the distinction between the innate and acquired character. The importance of this distinction for the theory of character would be justified if we could apply it with the same success as the distinction between instinctive and acquired actions in biology. Even the biologist has to proceed with great caution in deciding whether the co-ordinate activities of some bird or mammal are instinctive or acquired. He must observe and experiment with them at the earliest possible moment after they are hatched or born. And in the case of some deferred instincts it is difficult to estimate how much is congenital, how much acquired. But in dealing with the human mind our difficulties are enormously increased. The infant does not come into the world like birds and insects with relatively perfect instincts. All is immature with it; and both its instincts and innate mental constitution only come to perfection through trial and repetition. The innate and acquired characters seem inextricably blended. They are not separate or distinct from one another. On the contrary it is our innate mental constitution which, in the course of its psycho-physical development, acquires new characters. It might be thought that such an obvious point of view would not be departed from; but M. Lévy disregards it. Like M. Fouillée he speaks of character as formed of successive layers (couches) at the bottom of which is the innate self. "The acquired character," he says, "the adventitious and conventional self, is but the envelope more or less dense, more or less opaque, more or less resistant which covers the natural" (p. 85). There exist in each of us "two moral individualities very distinct, the one essential, primitive, natural, the other superficial, artificial, conventional" (p. 79). Now it may be readily admitted that most of us contain a superficial character which we expose to the world and a deeper character which, through reserve and self-respect, we conceal, or disclose only to our friends. What cannot be admitted is that the one is composed of purely innate constituents, the other of purely acquired constituents. The inherited and acquired are fused in both. The same constituents, thought, emotion, desire, will, enter into both. And whatever of these constituents is congenital and not acquired by imitation, by trial and repetition, is equally innate in both.

It is a pity in a work written in so attractive and pleasant a style that the author should not have subjected his leading ideas to a closer scrutiny and self-criticism.

ALEXANDER F. SHAND.

A History of European Thought in the Nineteenth Century. By John Theodore Merz. Vol. i. Introduction—Scientific Thought, part i. Edinburgh and London: Wm. Blackwood & Sons, 1896. Pp. xiv., 458.

It would be absurd to attempt any hurried appreciation of this work. Only one volume is before us, and the whole of its content depends, for fulfilment or for complement, on what is yet to come. Further, the work is one which stands altogether above immediate criticism. The incalculable labours of its preparation, its novel and possibly unique method, and the perfect clarity of its form, place it among those books which are judged by time and use. The abiding interest of its subject, its probable isolation, and the uncommon fitness of the author, would more than justify such a statement. Few men possess at once the literary art, the philosophic standpoint and the scientific information and sympathy of Mr. Merz; perhaps no other so equipped will devote a lifetime to a labour which requires no less. All who are interested in science owe very much to the author; he has rescued for every one the history of the most complex period of thought, and has presented it in a moving form. He has done nothing lightly; the reading involved in his study appears to have been positively exhaustive, yet his pages are read with remarkable pleasure. If the student will look for evidence of the author's intimate and practical knowledge of the very diverse writings and theories with which he has had to do, he will find it, but learning does not disturb the clear movement of the argument. The quality which most claims attention is a certain rare restraint and maturity; the work seems to have perfectly attained the proportions which are proper to it.

We have before us the Introduction and the first part of the study of *Scientific Thought.* The latter gives the movement of the scientific spirit in France, in Germany and in England, and proceeds to the exhibition of the astronomical and atomic views of nature. This section will be completed by the consideration of the mechanical, the physical, the biological, the statistical, and the psycho-physical views of nature; the second main division is to be occupied with the study of *Philosophic Thought;* and the third part will include the study of that great body of undefined and unmethodical thought which is predominantly personal and individual in character, constituting the twilight from which the other forms arise into their focal illumination. This third section, not easily named uniformly with the others, will be entitled *Religious Thought.*

The first three chapters, dealing with the three countries, are rich in content, omitting, so far as it is possible to judge, no significant factors in the development of European science, yet presenting us with short and well-wrought pictures; one receives the impression of life and movement in the development. In

addition to the restraint of proportions and richness of content, the reader will notice a peculiarly satisfying method. The author studies this method throughout; it is the result of a resolute effort to exhibit the process of the century with the utmost concreteness. The history of events, of social and political changes and conditions, lies just below the surface; racial and national temperament have their value; the instruments and institutions of knowledge and research are not omitted. It is to this impulse, indeed, that we owe the separate studies of the three countries, as well as the study of the unmethodical and inarticulate thought of the century. An easier method, in dealing with the same material, would have been to show a series of monumental intellectual products, and to exhibit purely scientific relations between its members. Mr. Merz chooses rather to explore the mass of which the latter are waves, and to find reaction between every part and the whole; he aims at articulating the hidden movement of thought, which, although it has wrought so manifold constructions, is yet individual throughout. This is not a history of science and art, or of other outward achievements; it is a history of the whole mass of thinking in this century—a coherent picture of its inner life. These three chapters owe much of their charm to this method; we observe no mere string of scientists, no abstract occupation or results; we see the scientific spirit as it moved men who were not cut off from practical and moral life. The love of nature, the spirit of enterprise, the requirements of government and industry, the great corporations of learning and research, with many other such practical factors, enter into the matter. It is the study of the development of an attitude of mind; everything that has modified or contributed to the scientific spirit, or that indicates its progress, has its value to the study. The well-organised measurements and calculations of France, the German philosophical and historical contribution, the isolated labour of the English student who has been especially thrown into touch with nature—these factors, in all their assimilation and fertilisation of one another, are very vividly exhibited. It is impossible within the present limits to enter into special points, and it would be hard to criticise them under the author's point of view. Intellectual constructions appear not by themselves, but as marks of the intellectual process, and when they have served that end they rightly disappear; it forms no part of the author's intention to judge a point of view or a theory as adequate or formal in this or that respect; his business is to show how men came to think so or to work so, and to find in the point of view or theory an organ of their individual inner life. Further, all the special views of nature which are here treated together and as one development, are later to be studied separately; we are therefore unable to ask fuller treatment for this point or for that.

Of the study of the astronomical view of nature, and of the beginning of the study of the atomic view, which occupy the last

150 pages, one may say that they are both perfect models of intelligible exposition. Having the form of history, they are true in catching for the reader the essential idea which worked in each moment of the progress of the sciences concerned. This is especially noticeable in the sketch of the development of chemistry. There does not exist any other so complete, short and lucid account of the successive steps which chemistry has taken under the conceptions which are associated with the names of Dalton, Gay Lussac, Avogadro, Mitscherlich, Mendeleeff, etc., or of the essential contributions of Clerk Maxwell, Pasteur, Joule and others to the atomic theory. So far as it is possible to judge, the same will be true of the chapter on astronomical theory; it, like the other, is a remarkably clear essay. We have in these two chapters the exposition of the advance of exact measurement in relation to molar and to molecular masses. There are not wanting signs that the views of nature here described may be related to the other views in a scale of conceptions such as the philosopher may use for the unifying of science; at present, however, we have just history of science in which the successive working ideas are brought into admirable prominence.

The eighty-five pages of the Introduction throw a clearer light on the author's intention than can be gained from the rest of this volume, which necessarily deals with only a very small part of his material. The immediate aim of the work is historical. It is the record, by a contemporary, of the general attitude of mind of the last generations, the features of which cannot be reconstructed from its works. 'It is the object of these volumes to fix, if possible, this possession; to rescue from oblivion that which appears to me to be our secret property; in the last and dying hour of a remarkable age to throw the light upon the fading outlines of its mental life; to try to trace them, and with the aid of all possible information, gained from the written testimonies or the records of others, to work them into a coherent picture, which may give to those who follow some idea of the peculiar manner in which our age looked upon the world and life, how it intellectualised and spiritualised them.' Or, as the question of the book is presented later: 'What part has the inner world of Thought played in the history of our century—what development, what progress, what gain has been the result of the external events and changes?' But such history has a deeper value than that of mere record. It is at least the preparation for the treatment of all human thought as an individual unity, and presupposes that conception. It is not easy to fill the idea that the sum of human knowledge is an organic whole; the encyclopædic method reveals no unity, and the unity which is born of systematic formulation is barren; the idea remains a conviction which seeks, and will some day find, a deeper expression. 'Unless I believed that our age was elaborating a deeper and more significant conception of this unity of all human interests, of the inner mental

life of man and mankind, I do not think I should have deemed it worth while to write the following volumes: for it is really their main end and principal object to trace the co-operation of many agencies in the higher work of our century; the growing conviction that all mental efforts combine together to produce and uphold the ideal possessions of our race; that it is not in one special direction nor under one specific term that this treasure can be cultivated, but that individuals and peoples in their combined international life exhibit and perpetuate it.' The essential unity of thought is not to be exhibited after abstraction from any one of its manifestations, or after abstraction from human interests and from the historical process of thinking. The philosophical conceptions under which Mr. Merz has worked appear more plainly in the following lines: 'Many may now think it premature or altogether impossible to try to combine the detailed studies of modern science and modern history with the comprehensive view demanded by philosophers and poets, or to grope through the labyrinth of external phenomena and events to their underlying significance and unity. . . . I propose in the sequel to test within narrower limits, and by what seems to me a novel method, the validity of the conviction that a true understanding of phenomena and events can be attained only by viewing them in their interdependence and collective effect. If anything in the wide expanse of physical and mental life deserves to be considered as one and indivisible, it is surely human thought in its various branches and manifestations. . . . Comparative anatomy teaches how from a few surviving links to construct the whole framework of an organism. I propose to apply a similar method to the small portion of mental progress of which I have been able to take personal notice and of which I have felt the immediate personal influence. A tracing as concisely as possible of this comparatively small portion of the course of European thought may be the first approximation to more accurate delineations, which themselves will be the means of gradually gaining a truer idea of the purport and significance that belong to the larger dimensions of the mental life of mankind.' The last words of the Introduction may also be quoted: 'The interdependence of all human interests will reveal and explain what truth attaches to Hegel's celebrated doctrine of the inherent dialectic of ideas, the spontaneous development of thought,' a note which, it may be expected, will have large influence on the work.

The limits of this notice have necessitated the treatment of the Introduction as a mere preface to the book; it is really much more; it is an essay covering much ground and written with a living style. All students will look forward to the completion of this work with grateful expectation.

GEORGE SANDEMAN.

VII.—NEW BOOKS.

New Essays Concerning Human Understanding. By Gottfried Wilhelm Leibnitz. Together with an Appendix consisting of some of his shorter pieces. Translated, with notes, by Alfred Gideon Langley, A.M. (Brown). New York: The Macmillan Company. London: Macmillan & Co., 1896. Pp. xix., 861.

It is scarcely creditable to English metaphysical scholarship that the first complete translation of a work so intimately connected with the history of English philosophy as the *Nouveaux Essais* of Leibnitz should be coming to us in the year 1896 and from the other side of the Atlantic. Mr. Langley can at least be congratulated on having undertaken a task as honourable as it must have been laborious to any man whose heart was less in the work than his own. For he has not only put the whole of the *Nouveaux Essais* into a more or less readable English—in itself no trifling labour—but has annotated them with copious explanations of the abundant scientific and historical allusions and provided an appendix of miscellaneous *opuscula* of Leibnitz which serve to illustrate parts of the main text. The mere bulk of such an achievement is so considerable, and the zeal for philosophy to which it bears witness so admirable, that I am unfeignedly sorry that the greater part of the present brief notice must necessarily be taken up in pointing out the serious defects which gravely diminish the value of Mr. Langley's work. Mr. Langley is an enthusiast in the cause of Leibnitz; he possesses a great store of that antiquarian knowledge which is so indispensable in a translator of the most learned of modern philosophers, and he is evidently well acquainted with the main developments of metaphysical thought since the time of Leibnitz. It may seem strange that a writer so gifted should have produced a translation of his author which the most lenient critic can only pronounce thoroughly unsatisfactory; yet the fact is so, and the explanation is not far to seek. With all his admirable endowments Mr. Langley completely lacks the one qualification which is absolutely essential to a translator of Leibnitz, an adequate knowledge of French. His linguistic mistakes are, indeed, so numerous and so serious that one is almost tempted to think that he must have set out to learn French by translating Leibnitz. The pages of Mr. Langley's book are reasonably numerous, some 850 in all, but I doubt whether the more or less serious mistranslations which disfigure them are not more numerous still. These mistakes may be classed, in the main, under three heads. These are: (1) Idiomatic blunders in the translation of such words as the definite article, the particles *même*, *que*, and so on. These lesser errors are so numerous as hardly to call for any remark. (2) Mistakes as to the meaning of common French idiomatic phrases, *e.g.*, p. 156, "time *could not* be determined" (French—le tems ne *laisseroit pas* d'être déterminé); **p. 239, "the principle of individuation *reappears in individuals in* the**

principle of distinction" (French—*revient* dans les individus *au* principe de distinction); p. 170, ". . . a multitude of objects which *do not recur immediately*, and the *nature of which could not go on to obtain their ends*" (French—qui *ne nous reviennent pas tout à fait* et *dont* la nature *n'a pu se passer, i.e.*, which are not altogether pleasing to us, though nature has not been able to dispense with them); p. 133, "this proves *all the more*" (French—*tout au plus*). (3) Sheer blunders in translation, of the kind popularly known as "howlers," *e.g.*, p. 100, "the *being we* is innate" (French—l'être nous est inné); p. 142, "water, cold or warm, pure or *salt*" (French—*sale*); p. 97, "they have taught them drunkenness, *when carrying them the water of life*" (French—en leur apportant de *l'eau de vie*); p. 160, "the modifications of extension, when not joined to number, *cannot* be distinguished by figure" (French—ne peuvent être distinguées *que* par la figure); p. 178, "a *cloudy* perception" (French—une perception *nue*); p. 181, "the soul . . . preserves its own perfections, and although dependent upon the body (in *seizing the good*) in the voluntary acts, it is independent . . . in others" (French—*à le bien prendre* = to state the case correctly; *voluntary* is also a mistake for *in*voluntary in this passage); p. 192, "it is just *what men have done*" (French—mais voilà comme les hommes *sont faits*). These are but a few examples, chosen at haphazard out of hundreds of others, but they are in themselves enough to convict Mr. Langley of utter incompetence for the position of translator of Leibnitz. No amount of zeal for an author is sufficient to atone for the linguistic ignorance which turns sentence after sentence of his chief work into mere nonsense, least of all in the case of a writer so full of pregnant and suggestive ideas as Leibnitz. And it is adding insult to injury when Mr. Langley, at p. xv. of his preface, lays the blame for the inelegance of his translation on the "abrupt and obscure and sometimes even ungrammatical" style of the author. No one, of course, would pretend that the *Nouveaux Essais* display the copious elegance which charms us in Malebranche's *Recherche*, but I venture to say that there is scarcely a sentence in the whole work which is obscure enough to cause serious difficulty to a tolerably good French scholar, and I doubt if there is even one—apart of course from textual corruptions—which is ungrammatical. The particular construction at which Mr. Langley boggles (see p. xv. and the absurd note on p. 768)—that of *la plupart* with a verb in the plural number—is, of course, as regular and familiar in French as the singular verb with neuter plural subject in Greek. Indeed, one hardly knows whether to be more amazed that so poor a French scholar as Mr. Langley should have had the courage to translate the *Nouveaux Essais*, or that none of the learned gentlemen who are mentioned in the preface as having encouraged him in the task should have had the candour to recommend some six months' assiduous study of the French tongue as a desirable preliminary to the work of translation.

It is a more pleasurable duty to speak of the quality of Mr. Langley's annotations to Leibnitz than to deal with his perversions of the text. A final judgment on the value of the great mass of historical notes could only be passed by one who had devoted the same time and pains to the interpretation of Leibnitz that Mr. Langley has done. I will only say here that as far as I have been able to test Mr. Langley, his antiquarian information seems sound as well as copious; and it is in the main in this work of explaining obscure allusions and references that he has deserved best of Leibnitz and of students of philosophy. Even with regard to the notes, however, I cannot omit to call attention to a few unfortunate misrepresentations. The *primum mobile* is *not* "in Aristotle's philosophy

τὸ πρῶτον κινοῦν, *i.e.*, God" (p. 156). The first note on p. 228, "*i.e.*, the soul, etc.," is quite erroneous. Leibnitz is simply arguing that if we had sense-organs variable at will, we should need some *corporeal* mechanism for their control. The reference in the footnote to p. 248, to *Kant's Religion*, etc., is wrong, and should be omitted. Leibnitz's statement at p. 288 about the general character of the language of children is surely more true to the facts than Mr. Langley's confident assertion, "everything for them (*i.e.*, children) is individual, particular, separate, and by itself". The first note on p. 306, where Leibnitz is credited with the discovery of a "source of manifold far-reaching and influential errors, specially fatal in philosophy, *viz.*, the hypostatising of concepts," is really quite absurd. Leibnitz, in the passage thus commented on, is only saying that a given *word* may sometimes, *e.g.*, in a dictionary or grammar, be the subject or matter of discourse. At p. 348 Pierre Sylvain Régis, the opponent of Malebranche, is confused with H. Regius, a mistake all the more curious because at p. 633 Mr. Langley not only gives a correct account of Regius, but censures Dr. Martineau for having fallen into this very confusion. It is extremely incorrect to say (p. 362, note 1) of the "elements" of Empedocles, without a word of qualification, that they were "adopted by Plato and Aristotle, and called by the Peripatetics warmth, cold, dryness, and humidity". The diagram in Leibnitz's *De arte combinatoria* should at least have kept Mr. Langley from the mistake about the Peripatetics. These are, however, after all, mere minor blemishes, and I hasten to add that the general level of Mr. Langley's notes is far above that reached by his translation. The collation of Erdmann's and Gerhardt's texts is a useful feature of Mr. Langley's notes, but it may reasonably be complained that he has too often followed the latter in cases of obvious clerical or typographical errors. The type, paper, and general get-up of the translation are as excellent as Messrs. Macmillan's reputation would lead one to expect.

A. E. Taylor.

An Outline of Psychology. By Edward Bradford Titchener. New York: The Macmillan Company. London: Macmillan & Co., 1896. Pp. xiv., 352.

The distinctive merit of this little book is its adaptation to the needs of the beginner. Avoiding unnecessary subtleties, Prof. Titchener gives a clear and well-arranged sketch of the leading topics of Psychology. A feature of especial value is the description of simple experiments which can be readily performed by the reader for himself. Such experiments are easiest and most effective in the analysis of sensations, and this is undoubtedly the best part of the book. When Prof. Titchener passes to the discussion of more complicated and recondite processes, his treatment is often unsatisfactory. He is apt to lay down sweeping and dogmatic statements on points which are still extremely difficult and dubious. For instance, in chap. v. he affirms, apparently without any kind of misgiving, that "anabolic bodily processes correspond to the conscious quality of *pleasantness*, catabolic processes to that of *unpleasantness*" (p. 94). In the same chapter he also states, as if it were a well-assured acquisition of science, that the experiences of pleasantness and unpleasantness can only occur when a neural disturbance is "carried to the highest 'co-ordinating centre' of the brain—the cortex of the frontal lobes" (p. 100). All this is speculative physiology, not a sober statement of psychological observations. Prof. Titchener has, of course, a perfect right to maintain these views, which may or may not be

correct; but it is surely out of place to set them down in dogmatic form in a very elementary introduction to the subject. It is also very unfair to himself, as he has no opportunity for an adequate statement of the reasons which have led him to his theories. In chap. vi. there is an interesting discussion of Conation and Attention. Prof. Titchener maintains that there is nothing in these experiences, *quâ* experiences, which cannot be reduced to Sensation and Affection. The reason he assigns is simply that introspection cannot find anything else. It is needless to say that we think him wrong on this point. He has not, in our opinion, correctly stated the problem which is to be submitted to introspection. But, after all, this is by comparison a minor question. What is of primary psychological importance is the account given of the nature of Conation as a process rather than as an experience. On this side of the question Prof. Titchener is to our mind more satisfactory, though by no means completely so. He admits the existence of natural and of acquired tendencies. "The nervous system," he says, "has, in every individual case, certain definite leanings, a bias in certain definite directions" (p. 110). Again, "Mind is a stream of processes flowing between banks, through channels which are now deep-cut and now shallow, which lead now in this direction and now in that, which now incline easily downwards and now run in the same level" (p. 113). This is excellent as far as it goes. But Prof. Titchener has failed, in our opinion, to realise the paramount importance of these tendencies in the treatment of the whole range of psychological problems. For instance, he makes no reference to them in discussing the fundamental conditions of pleasantness and unpleasantness. Prof. Titchener also appears to us to be on a wrong track, inasmuch as he constantly blurs the distinction between Sensation, Perception and Idea. These are all, according to him, sensations, and "the sensations aroused centrally do not differ as psychological processes from those aroused peripherally" (p. 148). Whether or not the neural processes corresponding to Sensation and Idea occupy the same brain-tracts, it seems obviously and undeniably wrong to affirm that they are psychologically identical processes. At any rate, the statement is very apt to mislead the beginner.

In spite of such criticisms as these, we must assert with emphasis that Prof. Titchener has executed a very difficult task with much skill. It is a very difficult task to write a really elementary book on Psychology; a book which shall give really clear, definite and distinct teaching, and yet be fully intelligible to the beginner. In the main, Prof. Titchener has succeeded in doing this. In certain respects, as we have seen, there is room for material improvement: but as the work is already passing into a second edition, and is likely to pass into more, the author will have abundant opportunity to revise and improve it.

G. F. S.

The Works of Joseph Butler, D.C.L., sometime Lord Bishop of Durham. Edited by the Right Hon. W. E. Gladstone. Oxford, 1896.

Studies Subsidiary to the Works of Bishop Butler. By the Right Hon. W. E. Gladstone. Oxford, 1896.

All that magnificence of paper, type, and margin can do for these volumes has been done for them by the Clarendon Press. Mr. Gladstone's edition of Butler will long continue the Classical Edition of Butler—the edition which no gentleman's library or rather (since in these days 'gentlemen' do not collect Libraries) no Public Library should be without. Mr. Gladstone's Annotations containing *in extenso*

the passages of other authors referred to (usually anonymously) by Butler, or more or less evidently in the author's mind, will often be found really useful. The same may be said of the large amount of interesting matter relating to the history of Butler's writings, to what has been said and written about them and against them, collected in the volume of Subsidiary Studies. When Mr. Gladstone launches forth into more general topics of Theology and Philosophy (especially the latter) we have abundant cause to admire the multifarious knowledge which he has found time to acquire in the interval of laborious and splendid public work. That he exactly meets the difficulties which Butler presents to the professed student of modern Philosophy, it would be too much to say. Even in the midst of his most energetic protests against various phases of modern theological speculation, it is quite clear how much his mind has really been affected by the progress of biblical criticism and theological thought.

Still, it must be confessed, his way of looking at things often belongs to the past rather than to the present. There are two elements in Bishop Butler—an element that exhibits in a somewhat exaggerated form the limitations and the embarrassments of eighteenth century Theology, and an element that is of permanent and enduring value. Mr. Gladstone, it must be confessed, does not do very much towards helping us to disentangle the one from the other. Nevertheless in exhibiting the hold which Butler's thought has obtained on so powerful a mind, Mr. Gladstone has constructed a notable monument to his hero's memory. Mr. Gladstone would probably consider himself rewarded for this labour of love if it should incite and assist some younger student to make a more deliberate and systematic attempt than has yet been made to assign to Butler his true place in the history of Philosophy and of Theology.

Christianity and Idealism. The Christian Ideal of Life in its Relations to the Greek and Jewish Ideals and to Modern Philosophy. By John Watson, LL.D., Professor of Moral Philosophy in Queen's University, Kingston, Canada. Glasgow: James Maclehose & Sons. London: Macmillan & Co. New York: The Macmillan Company, 1897. Pp. 216.

This work has grown out of lectures recently delivered before the Philosophical Union of the University of California. Part i. is the expansion of a lecture on "The Greek and Christian Ideals of Life". Part ii. contains three lectures in defence of Idealism. The author seems anxious to prove throughout his dissertation that religion and morality have been always indissolubly connected. In order to show this he tells us that he selects for detailed examination "one or two instances where the connexion seems at first sight to be broken" (p. 6). Accordingly in chapters i. and ii. Professor Watson brings historical evidence indicating the relation of totemism and polytheism to the ideal of life and standard of conduct existing among those ancient nations who adopted them as their basis of religious belief. His conclusion seems to be that when the practice of a community becomes purer than its cult, the latter is replaced by a loftier object of faith and worship. Chapter iii. treats of Judaism, where all morality consists in a rigid adherence to the letter of the Law with its code of adscititious precepts, devised by the ingenuity of the Pharisees. With this entirely external system of morality Professor Watson contrasts the ideal of life exhibited in the Christian Beatitudes (p. 63). Christ traces back the real source of all moral ideas to the heart of man as a member of a social community.

To the sentiment of brotherly love he appeals without reference, and often in direct antagonism to authority and tradition.

Christ's teaching was the highest type of optimism: an "optimism," says Professor Watson, which "flows from absolute trust in the goodness of God, and in a recognition that man in his ideal nature is a 'son of God'" (p. 97). The rapid change of Christianity in Mediæval times Professor Watson ascribes to three influences: (1) the belief that the kingdom of heaven could not be realised in this life; (2) a belief in the absolute authority of the Church; (3) the opposition of faith and reason.

Chapter vi. in part ii. is devoted to a defence of "the general doctrine of Idealism, which affirms that the knowable world is identical with the world as it really is, and is a systematic or rational unity" (p. 153). Agnosticism confuses the unknown with the unknowable, against which error Professor Watson protests. All knowledge is a knowledge of realities so far as it goes, but we cannot set limits to its possible extension. Chapter viii., entitled "Idealism and Christianity," deals (1) with the conception of God as the absolute of all existence; (2) the relation of the world, and especially of man, to the absolute. From the consideration of these two points the author concludes "that Idealism is in essential harmony with the Christian ideal of life as held by the Founder of Christianity, however it may differ, at least in form, from popular Christian theology" (p. 193).

T. W. Levin.

Habit and Instinct. By C. Lloyd Morgan, F.G.S. London and New York: Edward Arnold, 1896. Pp. 351.

This is a highly interesting and important contribution to Comparative Psychology. Among other points, it brings out in a clear light the importance of inherited organisation in determining the course of psychical activity. The author holds that there is little evidence either in animals or in man "of the hereditary transmission of increments of faculty due to continued and persistent use" (p. 346). Fuller notice will follow. We here give the headings of the chapters: Chap. i.—"Preliminary Definitions and Illustrations"; chap. ii.—"Some Habits and Instincts of Young Birds"; chap. iii.—"Locomotion in Young Birds"; chap. iv.—"Further Observations on Young Birds"; chap. v.—"Observations on Young Mammals"; chap. vi.—"The Relation of Consciousness to Instinctive Behaviour"; chap. vii.—"Intelligence and the Acquisition of Habits"; chap. viii.—"Imitation"; chap. ix.—"The Emotions in their Relation to Instinct"; chap. x.—"Some Habits and Instincts of the Pairing Season"; chap. xi.—"Nest-building, Incubation and Migration"; chap. xii.—"The Relation of Organic to Mental Evolution"; chap. xiii.—"Are Acquired Habits Inherited?" chap. xiv.—"Modification and Variation"; chap. xv.—"Heredity in Man".

The Science of Education. By Johann Friedrich Herbart, Professor of Philosophy at the University of Göttingen. Translated from the German with a Biographical Introduction by Henry M. and Emmie Felkin, and a Preface by Oscar Browning, M.A., Fellow of King's College, Cambridge. Second edition. London: Swan Sonnenschein & Co., Lim., 1897. Pp. xx., 286.

It is gratifying to see a second edition of this translation, inasmuch as it points to a growing interest in educational theories. But it may be doubted whether it is worth while to trouble the hard-working teacher

of the present day with Herbart's writings in their original form. Undoubtedly the writer on education ought to study Herbart; but it seems more or less a waste of time for the practical teacher to do so. Herbart's work has been a most important and valuable factor in determining the course of modern psychology: but his psychological system, as such, founded as it is upon an untenable metaphysics, must be pronounced obsolete. Its utter failure to recognise the importance of inherited constitution is in itself enough to disqualify it from forming the basis of a text-book of Pædagogics adapted to modern needs. The translation appears accurate, but it is somewhat unreadable.

Notes on Children's Drawings. Edited by E. E. Brown. Berkeley, Cal.: published by the University, 1897. Pp. 75.

This number of the "University of California Studies" consists of notes, copiously illustrated, of the drawings of four young children. The reports were prepared from a *questionnaire* of eight questions, and are supplemented by the observations and recollections of the Editor and others. The investigation, independently undertaken, was not finished on the appearance of the works of Sully, Baldwin and Lukens: the Editor has noted the points of contact with and divergence from these authors. A useful Summary discusses the relation of childish to savage drawing, the psychogenesis of drawing as indicated by the four cases reported, etc. The *Notes* end with a two-page bibliography.

Psychology of the Moral Self. By B. Bosanquet. London: Macmillan & Co., 1897. Pp. viii., 132.

This little book contains a course of lectures given in connexion with the University Extension movement. The author believes "that they will give a useful clue to students who desire to approach moral philosophy with some genuine ideas on the nature and working of mind" (Preface). The work will no doubt fulfil this function: but in our opinion it is scarcely worthy of Mr. Bosanquet's reputation. It is somewhat perfunctory, and tends to lapse into a mere series of quotations.

Les Sciences sociales en Allemagne; les méthodes actuelles. Par C. Bouglé, Ancien Eléve de l'Ecole normale supérieure, Agrégé de Philosophie. Paris: Félix Alcan, 1896. Pp. 189.

M. Bouglé is a Frenchman who has studied Social Science in Germany, and the present volume is in the nature of an exposition of the methods pursued by some of the leading German thinkers, who have devoted attention to social subjects. He has selected the works of four representative professors, and subjected their methods to an acute and comprehensive examination. Lazarus is selected as a representative of the psychology of peoples; Simmel, as a representative of Moral Science; Wagner, as a representative of Political Economy; and von Ihering, as a representative of the Philosophy of Law. These writers M. Bouglé considers as on the whole the most typical exponents of the newest tendencies in Germany. In Germany Social Science has been dealt with by various methods. In the heroic age of German philosophy, Social Science was treated from a speculative point of view. This was the method of Kant, Fichte, and Hegel. It was soon seen that purely speculative methods would not fit the facts of history, and a reaction arose against the speculative school. This reaction was led by men like Savigny and Niebuhr in the sphere of law, and in the sphere of

economics by Roscher and Knies. The speculative school despised facts, the historical school despised speculations. The historical school did good work in accumulating vast masses of facts, but it had no satisfactory key to the interpretation of these facts. The biological school represented by Lilienfeld and Schaeffle professed to find a key by borrowing the methods of the natural sciences. Society was assumed to be an organism, and its structure and functions in their origin and development were to be interpreted by methods similar to those employed in interpreting the facts of organic life. The biological school has obtained little hold in Germany. It is felt that biological laws will not explain social institutions. These institutions are determined as much, if not more, by psychology. In short, it is not by the methods of other sciences but by an independent method of its own that social science can discover the laws which govern social phenomena. In a concluding chapter M. Bouglé compares the sociological movement in Germany with the same movement in France. He has written a good and instructive book.

Essai sur le Génie dans l'Art. Par GABRIEL SÉAILLES, Directeur des conférences de philosophie à la Faculté des lettres de l'Université de Paris. 2me edition. Paris: Félix Alcan, 1897. Pp. viii., 313.

An inquiry, mainly psychological, into the nature of genius, the beautiful, the ideal, and the work of art as such. Starting with the assertion that genius connotes only a difference of degree in the spontaneity, facility and harmonious co-ordination in mental procedure characterising all intellectually constructive activity, whether perceptive, imaginative or conceptual, the author proceeds to analyse the mental image and its fundamental tendency to emerge in movement, deeming that here the germ of art is to be sought. *A des degrés divers tout homme est artiste.* The work of art begins with the relative freedom of the imagining, as compared with the perceptive mind. To imagine is to idealise; there are as many ideals as there are objects and minds to contemplate them. And the beautiful is not in any object, but is what my mind makes of it, what I see alone and endeavour to embody.

This essay, presented some time ago as thesis for a doctor's degree at the Sorbonne and now republished, though it is not wholly free from those defects of *la littérature phraséologique* which characterise so much that is written on æsthetic subjects, has more sound psychology than most, and is full of *verve*. Nor from its abundance of matter and wide range can justice be done to it in a brief note.

Le Déterminisme Biologique et la Personnalité Consciente. Par FÉLIX LE DANTEC. Paris: Félix Alcan, 1897. Pp. 156.

This is the sequel to the author's *Théorie de la Vie*, which dealt with 'biological determinism'. The present volume proceeds to the description of the 'psychical epiphenomena' which accompany, but do not influence, the 'physical phenomena'. The expression 'biological determinism' signifies that bodily processes are sufficient to themselves, and reject the interposition of 'will'. M. Le Dantec studies the consciousness of atoms; then the union of these psychical centres, in chemical combination, into the consciousness of the molecule; he proceeds to the consciousness of the cells of the body and studies the relations of these subordinate experiences to one another; the latter do not fuse or unite to form the mental life of the individual. The volume concludes with short considerations about reason, sleep, memory, and death. It

reminds one throughout of Hæckel's *Perigenesis of Plastidules*, and often of the Leibnitzian system. The book is slight and facile in manner ; the author does not seem to be altogether aware of the present difficulties of his subject or of the past contributions to it.

Geschichte der Logosidee in der Griechischen Philosophie. Von Anathon Aall. Leipzig, 1896. London : Williams & Norgate. Pp. xix., 251.

This work traverses the same ground as Heinze's treatise on 'Die Lehre vom Logos,' published in 1872. It is an attempt to trace the rise and development of the doctrine of the Logos from Heraclitus to the Neo-Platonists. The author deserves the thanks of theological as well as philosophical students for so careful and elaborate a piece of work on a subject of so much interest and importance in the history of human thought.

We shall best obtain a clear idea of the development of the Logos-doctrine if we cite a sentence or two from the author's introduction. "Ihre eigenthümliche Gestalt gewinnt die Idee nur von dem Augenblick an, da sie sich jedenfalls von dem transcendenten Gottesbegriff emanzipiert. . . . Ihre Existenz verdankt die Idee vom Logos nicht dem Bedürfniss *Gott*, sondern dem Bedürfniss, die *Welt* zu erklären. . . . Thatsächlich ist durch sie das Göttliche, wie sonst nirgends, der Welt der Menschen und der Welt der Natur nahegebracht."[1] The gradual emancipation of the idea of Logos from the idea of the Supreme God, between whom and the world the Logos is a mediator, is the theme of the book.

In developing his plan, the author begins with a short account of the theological doctrine of Thales and the Eleatics. Although the substantive doctrine of the λόγος is foreign to their teaching, they nevertheless make room for Reason among the attributes of the First Cause. As a separate and distinct conception, however, it is to Heraclitus that the doctrine is due ; and Aall accordingly devotes a considerable section of his book to an account of that philosopher. If we understand him rightly, Aall refuses to allow that Heraclitus' λόγος is organically connected with what (in common with many other writers) he regards as the fundamental tenet of his philosophical system—that the στοιχεῖον of all things is Fire. He complains—not, we think, without reason—of the tendency of critics to equate λόγος with πῦρ, ψυχή, and ἀναθυμίασις, and gives strong reasons for believing that the idea of ἀναθυμίασις in Heraclitus is a later accretion due to the Stoics. Aall himself explains Heraclitus' λόγος as follows: It is, on the one hand, Reason regarded as the universal παράδειγμα for the human spirit. Our duty is to follow its guidance ; when we desert it, we do so in consequence of moral anarchy within us. The same reason manifests itself, on the other hand, in the external world, which is created in its image. It is therefore a universal cosmic principle: at once "die intellektuelle Basis der Welt wie der Wahrheit zuverlässigstes und klarstes Ideal".[2] Although we cannot assign to it personality, yet its affinities with the Christian doctrine are sufficiently close to have induced Justin Martyr to claim Heraclitus among the Christians before Christ.[3]

[1] P. xix. [2] P. 55.

[3] Aall cites in this connexion the following remarkable passage from Justin : καὶ οἱ μετὰ λόγου (should we not read λόγου?) βιώσαντες χριστιανοί εἰσι, κἂν ἄθεοι ἐνομίσθησαν. οἷον ἐν Ἕλλησι Σωκράτης καὶ Ἡράκλειτος καὶ οἱ ὅμοιοι αὐτοῖς. No doubt Heraclitus' doctrine of the λόγος had something to do with the estimate formed of him by early Christian authors.

The doctrine of the λόγος practically disappears from Greek philosophy between Heraclitus and the Stoics, or, if it survives at all, it wears a different dress. Aall finds traces of it in the νοῦς of Anaxagoras, whose great merit (according to the author) is that he invested the Heraclitean λόγος with teleological attributes; in the Ideas of Plato, which are a sort of *Mittelwesen* between the First Cause and the world of phenomena; and also in some of the features of Aristotle's qualified idealism. But he clearly shows that the *word* λόγος is not used by any of these thinkers in the sense which Aall himself assigns to it in Heraclitus.

The results of Aall's investigation of the Logos-doctrine in Stoicism may be briefly summarised in the following remarks. Its operation is universal, both without and within us, and its embodiment is fire. In ordering the world, it distributes itself in various proportions among organic and inorganic things; but, among the creations of Nature, its highest grade is reserved for Man. In him it is, in fact, identical with the ἡγεμονικόν which "dominates the whole of Stoic psychology". It is in virtue of the presence of this common element in a pre-eminent degree that God and Man are brought into union. Its relation to the Deity in the Stoic system is difficult to define; but there is, according to Aall, one obvious difference—the Deity is sometimes regarded as a personal Being, the Logos never. "Gott waltet als souveräne Persönlichkeit. Neben ihm erhebt sich die kunstvolle Gestalt des Logos, durch welches neue Plasma Welt und Mensch ihre philosophische Erklärung finden sollten."

From the Stoics, after briefly treating of the dogma as it meets us in the Alexandrian philosophy, our author passes to Philo. He gives an interesting account of the religious sentiment which was gradually growing up around the dogma, and which is reflected in such epithets as πρωτόγονος, ἀρχάγγελος, ἀπεικόνισμα, and παράκλητος; but he makes it clear that Philo stopped short of actual personification.[1] It was not till Christianity that the Word became flesh. The work ends with an account of the Logos-doctrine in Neo-Platonism.

From what has been said a fair idea may be obtained of the conclusions at which Aall arrives. The arguments by which he reaches them may not be always sound, but they are generally worthy of consideration. Scholars will perhaps wish that more attention had been paid to recent works on ancient philosophy. The author complains of the difficulty in distinguishing between the contributions of successive heads of the Stoic school to the sum total of Stoic doctrine. Much has, however, been done in this direction by Hirzel, and after him by Pearson, in his *Fragments of Zeno and Cleanthes*, and Aall's work would certainly have gained in precision and firmness of grasp if he had paid some regard to their conclusions. Sometimes, too, it is impossible not to doubt whether the author's scholarship is sound enough to enable him to successfully carry an inquiry of this kind to its conclusion.[2] On the other hand, his criticism of the rival interpretations of the word λόγος in Heraclitus appears to me acute.[3] He does not, however, mention the view which regards Heraclitus' λόγος as the actual treatise which he was writing, or the arguments contained in it. Such a view seems practically to banish the doctrine of the Logos from Heraclitus altogether, and fathers it upon

[1] *De Prof.* i., 561 (cited by Aall): ὁ δὲ ὑπεράνω τούτων λόγος θεῖος εἰς ὁρατὴν οὐκ ἦλθεν ἰδέαν.

[2] Instances in point will be found on pp. 6 and 31. There is also an unnecessary number of misprints in quotations from the Greek.

[3] Pp. 29-34.

the Stoics.[1] Unhappily, the fragments of Heraclitus are so scanty and ill-preserved that scholars are never likely to agree in their interpretation of his λόγος. Professor Burnet denies that "λόγος meant Reason at all in early days".[2] Against this view some linguistic arguments of no little weight are adduced by Aall. On broader grounds, the theory which assigns the Logos-doctrine to Heraclitus seems to me reasonable. Many of his utterances read as if the speaker believed himself to be inspired; and such a belief is likely to have been fostered by a doctrine of this kind. The words which Heraclitus applies to the Sibyl might well be said of himself: *Σίβυλλα δὲ μαινομένῳ στόματι ἀγέλαστα καὶ ἀκαλλώπιστα καὶ ἀμύριστα φθεγγομένη χιλίων ἐτέων ἐξικνέεται τῇ φωνῇ διὰ τὸν θεόν.*

J. Adam.

Die Lehre des Sokrates als Sociales Reformsystem. Von Prof. Dr. August Döring. London: Williams & Norgate, 1896. Pp. x., 614.

The object of this work is to determine the position of Socrates and his teaching in the history of philosophy. "Der Zustand," says Dr. Döring, "in dem sich das Problem der Sokratischen Lehre noch immer befindet, ist einigermassen beschämend für die Geschichte der Philosophie und die gesammte Geschichtswissenschaft überhaupt." The author claims to have pointed out the method by which we may hope to arrive at a final solution, and to have made some contribution towards it.

We may say at once that Dr. Döring's work is excellent in respect of plan and arrangement, and shows a profound acquaintance with the literature of the subject. It should prove an invaluable aid to any student of Socrates' life and teaching, and especially to any future editor of Xenophon's *Memorabilia*.

The book is divided into three leading sections, preceded by an Introduction.

In the Introduction it is maintained that Socrates was a systematic thinker, and that Xenophon's *Memorabilia* is our only trustworthy authority for the substance of his teaching. The first section (pp. 84-344) consists of a minute and laborious examination of the *Memorabilia*, the result of which is to show that Xenophon arranged his material according to a plan of his own, resting rather upon an apologetic basis than upon the actual philosophical sequence of the Socratic dogmas. Dr. Döring regards the *Memorabilia* as Xenophon's work throughout, although in its present form it is a second edition, revised and augmented by the addition of book i., chap. ii., 9-61, and book ii., chaps. ii.-x. These additions—so thinks Dr. Döring—were made in view of an attack upon Socrates' life and teaching by the Sophist Polycrates. It would require a long philological discussion to test this theory, and we must here content ourselves with saying that in our opinion the author has not succeeded in proving his point. But the hypothesis of a double recension of the *Memorabilia* is not essential to the main argument of the work before us. In part ii. we are presented with the substance of the *Memorabilia* recast in a scientific form, and logically subordinated under a single leading idea. The fundamental idea in Socrates' teaching, according to Dr. Döring, is "Sozialethik beruhend auf Sozialeudämonie". Socrates was primarily a political and social reformer; and all his teaching can be explained as the out-

[1] See Burnet's *Early Greek Philosophy* (where this opinion seems to be held), pp. 133-134. Burnet ousts the obnoxious λόγου from one of the most important fragments (92 in Bywater).

[2] *Loc. cit.*, p. 133.

come of his passion for reform. Like his follower Plato, he considered the reformation of Athens to be possible only by reforming the rulers; and hence his doctrine of Duty and Virtue "ist nicht eine solche für den Menschen überhaupt: sie ist unter dem Gesichtspunkte seiner Gesellschaftsreform entworfen und bezieht sich wesentlich auf den Stand der Leitenden". This proposition Dr. Döring seeks to establish by a detailed examination of the Socratic theory of the Virtues. The direction which in Socrates' opinion reform should take was towards aristocracy, in the etymological sense of the word. In this respect Socrates agreed with the tendency of all Greek political speculation, although he did not lose himself in mere Utopias like Plato. Finally, in part iii., it is shown that such a conception of Socrates' life and doctrine is strictly in harmony with the circumstances of his age, and supported to some slight extent by the testimony of the ancients themselves, as well as by the political speculations of his pupils, particularly of Plato in the older section of the Republic, and by Xenophon in his *Cyropædia*.

Such is the view of Socrates presented by Dr. Döring. As a protest against a certain school of critics, who are unwilling to allow that Socrates was anything but 'the father of philosophy,' the work is of the greatest value. It gives us a picture of Socrates which, so far as it goes, is true. But is it the whole truth? We doubt it. Let us grant that Socrates himself aimed at reforming his country, by the creation of a school of statesmen who should rule for their country's good; we have still to explain the impulse which he gave to philosophy in the person of Plato. The work before us gives an admirable account of the substance of Socrates' teaching; but touches only lightly on his *method*. It was his method, as Aristotle observed long ago, which gave birth to a new era in philosophy, and no picture of Socrates can be complete without the presence of this feature. Now it is just the method of Socrates, and all that it involved—imagination, enthusiasm, sympathy—which we should *a priori* expect to have eluded the matter-of-fact Xenophon. The *Cyropædia* is a melancholy proof that Xenophon was almost totally lacking in philosophical insight and imagination; and it is unreasonable to suppose that he could have sounded the depths of so marvellous a nature as Plato has described for us in the *Symposium*. To us it seems that intellectual stimulus and moral enthusiasm are singularly lacking even in the *Memorabilia;* and without these qualities no one could have influenced the soul of Plato as Socrates did. Schleiermacher's formula, that the historical Socrates was x + the Socrates of the *Memorabilia*, still holds the field; and the unknown quantity is still to be interpreted from the dialogues of Plato, especially, perhaps, from the *Symposium* and the *Phædo*. None the less should we be grateful to Dr. Döring for so scholarly and exhaustive an account of one of the two sides in the character of Socrates.

J. Adam.

Psychologie. Von Dr. Alois Höfler. Wiess und Prag: F. Tempsky. Pp. 604.

Dr. Höfler, whose *Logic* was published some years ago, and then attracted considerable attention, has now finished a text-book of psychology, which constitutes with the former a "Philosophische Propaedeutik," intended for the higher classes of Austrian middle schools. The greater part of books of this kind consist of little more than extracts from larger hand-books, imitating them in their divisions and proportions

with great accuracy, and forgetting that both quality and quantity of intellectual, as well as material, food should depend upon circumstances. Dr. Höfler, who is not only a schoolmaster but a distinguished philosopher as well, takes a line of his own.

An elementary text-book of any science may pursue two very different aims: either it is intended to be a real introduction, the perusal of which is to be followed by the study of larger hand-books and monographs, or it is meant to give such information as is valuable in itself as an essential element in the education of the higher mental faculties. In the first case, the author has to ask himself: What knowledge of notions, facts, and methods is generally presupposed in scientific literature? In the second case, he has to answer the much more subtle question: What can the study of this science contribute to the general culture of the mind? Dr. Höfler, writing for readers who, for the most part, do not intend to study psychology for its own sake, has deliberately chosen the second way. He has given us a book, which, neglecting a detailed exposition of the facts and methods of current psychology, is extremely well adapted to foster those habits of careful self-observation and self-analysis which even among our cultivated classes are still greatly neglected.

The main import of Dr. Höfler's psychology lies on the descriptive side. In treating of a class of mental phenomena, he generally begins by ascertaining the precise meaning of the terms used for them in current language, proceeding from extension to intension, and distinguishing carefully between terms denoting slightly different objects, or different meanings of one term. The phenomena themselves are then scrupulously analysed and classified, their hidden elements brought to light, and their inner relations expounded. In all these directions Dr. Höfler's work is simply excellent. The space to which I must confine myself forbids ample illustration: so I only refer to the analysis of our ideas of Space (284-304), Time (353-356), and the Ego (378-384); to the discussion of the question, whether a judgment factor be present in the processes of observation and recollection (211-214, 252-257); to the demonstration of "form-qualities" as essential elements of many ideas (152-154); and to such distinctions as that between feelings from ideas and feelings from judgments (390), or that between egoism in the sense of taking one's own future pleasure as an end, and egoism in the sense of being guided by one's own judgment of worth (483). By these, as well as by many similar investigations, Dr. Höfler shows himself a thinker of great acuteness, and opens interesting perspectives in what may be called the logic of psychology. In the exposition of psychical laws the author limits himself as nearly as possible to the data of scrupulous self-observation, quoting the results of laboratory researches only for the sake of giving greater clearness and precision. Though this method necessarily fails to give an adequate impression of the importance of quantitative work for the solution of psychological problems, it has the direct advantage, that the reality of the facts, upon which the argumentation rests, is always under the reader's control, and the indirect one, that the habit of looking at the data of common mental experience as materials for scientific interpretation is strongly cultivated. In regard to explanatory theories, Dr. Höfler observes the utmost caution; never asserting more than his probable readers are prepared to judge of, and often limiting himself to the bare statement of conflicting opinions. So far as I can see, this is the right way. A high degree of mental culture involves not only a certain amount of knowledge and intellectual training, but also a deep impression of the dignity of science, and a disposition to abstain from

judgment in the absence of sufficient reasons. For the development of these qualities it is as dangerous to leave those problems, which surpass the powers of the beginner, unmentioned, as it is to offer a solution in a more or less authoritative way. The student should recognise that the limits of science do not coincide with the limits of his text-book, or with those of his present faculties; but the independence of his judgment should, above all, be respected. It is a great merit of Dr. Höfler's *Psychology*, as well as of his *Logic*, to have kept both these principles constantly in view.

As for the general philosophical and psychological standing-point of the author, it is sufficient to remark that the names of Brentano, Meinong, and Ehrenfels are those he especially quotes.

G. Heymans.

Schopenhauer und die indische Philosophie. Von Dr. Max F. Hecker. Köln: Hübscher & Teufel, 1897. Pp. 255.

That the author of this most interesting essay should also show himself ignorant of "Indological studies" at first hand, that is to say, with two out of the three systems of thought he sets himself to compare together, is much to be deprecated. Holding that Schopenhauer is practically Brahmanical in his metaphysic, and Buddhistic in his ethic—which is true only within certain limits—he draws in outline a systematic parallel between these three doctrines under the main heads of Mysticism, Ethic, and Metaphysic and Asceticism. The exposition is for the most part so lucid and simple that the work will probably be read beyond the circle of select readers. But the lucidity and simplicity are, it is to be feared, due in great measure to the over-restriction of the sources on which Dr. Hecker has drawn for his Oriental material. Prof. Deussen's *System des Vedânta* is, it is true, a host in itself, but our knowledge with regard to Buddhist philosophy is still too incomplete for any one to elicit a reliable account of it in all points by borrowing solely, or practically so, from one small work, good as that is, like Prof. Oldenberg's *Buddha*. To quote only two instances: we have reproduced, of course uncritically, the latter's theory of an element of consciousness (*viññāna*) surviving at death, which is based on one ambiguously recorded episode in the Canon, and is opposed by other explicit utterances of Gotama. Again, a wider acquaintance with the results of Buddhist scholarship might have led the author to dwell less on egoism as the basis and obtuseness as the ideal of Buddhist ethics, and more on its "enthusiasm of humanity" and its missionary ardour; while research into its original records might have suggested a possible coincidence with Schopenhauer's ethic of sympathy as based on his doctrine of identity.

C. A. F. Rhys Davids.

Grundzüge der Psychologie. Von Hermann Ebbinghaus, Professor der Philosophie an der Universität zu Breslau. Erster Halbband. Mit zahlreichen Figuren im Text. Leipzig: Verlag von Veit & Comp., 1897. Pp. 320.

This book is meant as an introduction to psychology; but its aim is not to give a preliminary outline of the subject, but actually to introduce the reader into the serious and detailed study of psychological problems. Much stress is laid on experimental work, but the scope of the book is by no means limited to the results of experiment. It is to embrace the entire life of the individual mind from its lowest to its highest manifestations. The part of the work already published contains about one-

fourth of the whole. It treats (1) of general questions, such as the nature of the soul, its relation to the body, unconscious mental process and psychological method; (2) of the structure and functions of the nervous system; (3) of the simplest mental products. Under the last head the psychology of sensation is expounded. In the present instalment the author deals only with sight and hearing. At present only the first half of the first volume is before us. Full review must be postponed at least until the completion of this volume. But it is necessary to say that, as far as he has gone, Prof. Ebbinghaus has produced absolutely the best exposition of the psychology of sight and hearing anywhere to be found. His treatment of the nervous system is also admirable.

Uber physische und psychische Kausalität und das Prinzip des psychophysischen Parallelismus. Von MAX WENTSCHER. London: Williams & Norgate, 1896. Pp. x., 122.

The interaction of mind and body is maintained as against the fashionable hypothesis of mere parallelism. The author has of course no difficulty in pointing out the logical fallacies of the doctrine of parallelism as ordinarily expounded, and especially the inconsistencies into which its advocates are apt to fall. His own view is that logical, mathematical, ethical and æsthetic relations are by their nature essentially distinct from and independent of mechanical relations. On the other hand, they determine action, and so affect the course of physical events. Thus the psychical independently determines the physical, as in impressional experience the physical independently determines the psychical.

Lehrbuch der Psychologie. Von FRIEDRICH JODL, O.O., Professor der Philosophie an der Universität zu Wien. Stuttgart, 1896. London: Williams & Norgate. Pp. xxiv., 767.

This is essentially a text-book, and as such it possesses conspicuous merit. The arrangement is clear and systematic, the exposition lucid and definite, and the treatment throughout characterised by accuracy and soundness of judgment. Fuller notice will follow.

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A. Moll, *Hypnotism* (fourth edition, revised and enlarged), London, Walter Scott, Ltd., 1897, pp. xiv., 448.

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W. James, *The Will to Believe*, etc., New York, London and Bombay, Longmans, Green & Co., 1897, pp. xvii., 327.

L. A. Selby-Bigge, *British Moralists*, Oxford, at the Clarendon Press, 1897, 2 vols., pp. lxx., 425; 451.

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L. F. Ward, *Dynamic Sociology*, New York, D. Appleton & Co., 1897, 2 vols., pp. xl., 706; vii., 690.

F. Pillon (publiée sous la direction de), *L'année philosophique*, septième année, 1896, Paris, Félix Alcan, 1897, pp. 314.

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J. B. Crozier, *History of Intellectual Development*, London, New York and Bombay, Longmans, Green & Co., 1897, vol. i., pp. xv., 538.

G. Le Bon, *The Crowd*, second edition, London, T. Fisher Unwin, 1897, pp. xxii., 219.

C. Douglas, *Ethics of John Stuart Mill*, Edinburgh and London, W. Blackwood & Sons, 1897, pp. cxxvi., 233.

V. Brochard, *De l'erreur* (deuxième édition), Paris, Félix Alcan, 1897, pp. 281.

L. Dauriac, *La psychologie dans l'Opéra français*, Paris, Félix Alcan, 1897, pp. xxiii., 164.

P. Regnaud, *Précis de logique évolutionniste*, Paris, Félix Alcan, 1897, pp. iv., 211.

T. Ribot, *L'évolution des idées générales*, Paris, Félix Alcan, 1897, pp. 260.

V. Basch, *Essai critique sur l'esthétique de Kant*, Paris, Félix Alcan, 1897, pp. xiv., 608.

C. Chabot, *Nature et moralité*, Paris, Félix Alcan, 1897, pp. 290.

L. Brunschvieg, *La modalité du Jugement*, Paris, Félix Alcan, 1897, pp. 244.

A. Comte, *La Sociologie*, résumé par E. Rigolage, Paris, Félix Alcan, 1897, pp. xv., 472.

A. Binet (publiée par), *L'année psychologique*, troisième année, Paris, Félix Alcan, 1897, pp. 825.

G. de Craene, *De la spiritualité de l'âme*, London, Williams & Norgate, 1897, pp. 354.

J. C. Kreibig, *Die Aufmerksamkeit als Willenserscheinung*, Wien, Alfred Hölder, 1897 ; London, Williams & Norgate, pp. vi., 93.

H. Ebbinghaus, *Über eine neue Methode zur Prüfung geistiger Fähigkeiten*, Hamburg und Leipzig, Verlag von Leopold Voss, 1897, pp. 61.

J. von Kries, *Abhandlungen zur Physiologie der Gesichtsempfindungen*, Hamburg und Leipzig, Verlag von Leopold Voss, 1897, Erstes Heft, pp. vi., 198.

W. Wundt, *System der Philosophie*, zweite umgearbeitete Auflage, Leipzig, Verlag von Wilhelm Engelmann, 1897 ; London, Williams & Norgate, pp. xviii., 689.

G. Dallari, *Dei Nuovi Fondamenti della Filosofia del Diritto*, Modena, 1896, pp. 139.

G. Negri, *Meditazioni Vagabonde*, Milano, Ulrico Hoepli ; London, Williams & Norgate, 1897, pp. lxiv., 510.

G. Negri, *Segni dei Tempi*, Milano, Ulrico Hoepli ; London, Williams & Norgate, 1897, pp. xxxii., 454.

A. Faggi, *Principj di Psicologia moderna*, II., Palermo, Alberto Reber, 1897 ; London, Williams & Norgate, pp. iv., 134.

P. Ceretti, *Saggio circa la ragione logica di tutte le cose*, Versione dal latino del C. Badini, e connote ed introduzione di P. D'Ercole, volume iv., sezione ii., Torino, 1897, pp. 525-1011.

VIII.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. v., No. 6. **A. C. Fraser.** 'Philosophical Faith.' [We have the philosophy of the unknowable, and that which makes infinite reality comprehensible by human thought. Both neglect the rationally authoritative *needs* of man. "'Faith,' 'trust,' 'authority,' are words not unfit to designate the final relation of the human spirit to the universe of reality." Examination of Locke and Hegel. "Philosophical faith is the truly rational trust that nothing can happen in the temporal evolution which can finally put to confusion the principles of moral reason that are latent in man."] **A. Seth.** 'The Term "Naturalism" in Recent Discussion.' [Defence of Balfour's usage.] **D. G. Ritchie.** 'The Relation of Logic to Psychology,' i. [Psychology deals with events, logic with validity. Confusion of the two in Mill: discussion of the law of contradiction. No scientific line can be drawn between logic and epistemology: Jevons. The ultimate test of truth in all departments of knowledge is coherence within a system, and this test is identical with the 'laws of thought' which underlie formal logic.] **J. A. Leighton.** 'Hegel's Conception of God.' [God is "the universal self-consciousness which comprehends within itself all concrete differences, men and things".] Discussions. **E. Ritchie.** 'Professor Pfleiderer on Morality and Religion.' [Against Pfleiderer's advocacy of the dependence of ethics on religious dogma.] **C. W. Hodge.** 'Windelband on the "Principle of Morality".' [Windelband's teleological method requires a metaphysical supplement to ethics.] Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

Vol. vi., No. 1. **D. G. Ritchie.** 'The Relation of Logic to Psychology,' ii. [Judgment and concept; intension and extension; singular and universal propositions; the syllogism. Apology for Aristotelian and formal logic. General result: psychology ought to be kept out of logic, but cannot be kept out of the epistemology into which logic inevitably merges; logic ought not to be kept out of psychology. The seeming paradox is explained by the fact that psychology is both philosophy and science of mind.] **J. D. Logan.** 'The Aristotelian Concept of *φύσις*.' [Aristotle "transforms the early hylozoistic conception of *φύσις* as brute material will, determined in its 'appearances' solely by its own caprice, into a new hylozoism, according to which the unconscious will of the world, determined in its 'appearances' by and for immanent entelechies, is ultimately determined by and for a spiritual being, a transcendent absolute entelechy, or supreme good".] **J. Dewey.** 'The Psychology of Effort.' [There are three theories of effort: the spiritual, the sensational and the mixed. The difference is probably reducible to a confusion between effort as conscious fact and effort as logical category or moral value. In conscious effort certain sense qualities, usually fused, fall apart. The importance of effort is "due to the fact that it is the critical point of progress in action, arising whenever old habits are in process of reconstruction, or of adaptation to new conditions".] **W. J. Wright.** 'Lotze's Monism.' **F. C. S. Schiller.** 'Reply.' [Criticism of the

paper in vol. v., No. 3, and counter-criticism.] **N. Wilde.** 'Morality and Religion.' **E. Ritchie.** 'Reply.' Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

Psychological Review. Vol. iii., No. 6. **E. F. Buchner.** 'The Third International Congress of Psychology.' **J. Kodis.** 'Richard Avenarius.' [Bibliography and general appreciation.] **G. M. Stratton.** 'Some Preliminary Experiments on Vision without Inversion of the Retinal Image.' [A reinverting apparatus was worn over one eye for parts of three days, the eyes being blindfolded in the intervals. The field of touch was not excluded. Experience gradually righted itself. So far as the 'projection' and 'eye-movement' theories of vision depend on inversion, they are thought by the author to be thereby refuted.] **J. McK. Cattell** and **L. Farrand.** 'Physical and Mental Measurements of the Students of Columbia University.' [Suggestion of methods. Illustration from results of 100 cases. Desiderata: (1) study of the interrelation of the traits defined and measured; (2) determination of the relative weight of heredity and environment in the development of the individual and the race.] Discussion and Reports. **W. James.** 'Psychical Research.' [Defence against Cattell's criticism. Results of American hallucination census.] **G. H. Howison.** 'Psychology and Logic: Further Views.' [Reply to Stratton.] **C. L. Herrick.** 'The Psychosensory Climacteric.' [Importance of change of memory-type, from objective reproduction to abstract (*e.g.*, verbal) surrogates.] Psychological Literature. New Books. Notes.

Vol. iv., No. 1. **G. S. Fullerton.** 'The Knower in Psychology.' [Difference between self as knower and self as known. History of the former in the history of ancient and modern philosophy. Modern opinions: the fallacies of Green and Ladd. The knowing self not a psychological problem: its origin in the 'objectivity' of the child and the animism of the savage consciousness.] **W. L. Bryan** and **N. Harter.** 'Studies in the Physiology and Psychology of the Telegraphic Language.' [Individual differences in telegraphic writing. Curves of improvement in receiving and sending. Contains valuable detailed results as regards the individual psychology of voluntary movement and practice.] **A. Binet** and **N. Vaschide.** 'The Influence of Intellectual Work on the Blood-pressure in Man.' [Preliminary report. Criticism of Kiesow. The most favourable counter-pressure. Amplitude of pulse increases with intellectual work.] Discussion and Reports. **H. M. Stanley.** 'Language and Image.' [Practical value of words for the manipulation of image masses with the minimum of imaging reference. Explanation by law of habit.] **J. H. Hyslop.** 'Upright Vision.' [Stratton's investigation was really one of tactual and motor adjustments.] Psychological Literature. New Books. Notes.

American Journal of Psychology. Vol. viii., No. 2. **G. S. Hall.** 'A Study of Fears.' [Questionnaire returns and theory. Some twenty cases of typical fear are distinguished: fear of falling, of closeness, of thunder, of eyes, of solitude, etc.; dream and school fears receive special treatment; and a section is devoted to the repression of fears. The explanation is genetic: there may be vestigial traces, atavistic reversions in mind, as well as in body. Thus falling fears are a survival from the primeval sea, "antedating perhaps limbs, and possibly even the visual factors of space perception".] **C. S. Parrish.** 'Localisation of Cutaneous Impressions by Arm Movement, without Pressure upon the

Skin.' [Limen of localisation much greater than with the ordinary method; movements in flexion are overestimated, and in extension underestimated; visualisation decreases the limen; relative excursions of right and left hands, for movements judged to be equal.] **E. D. Starbuck.** 'A Study of Conversion.' [Questionnaire returns. Circumstances of conversion; puberty and conversion; analysis of the process, antecedents and central features; cognate experiences. Summary: conversion regarded sociologically and biologically, physiologically, psychologically, pedagogically. Contains a store of crude facts, which, however, need more thorough working over before they can be turned to scientific account.] Psychological Literature. Notes and News.

Revue Philosophique. Vingt-deuxième Année, No. 1. Janvier, 1897. **G. Tarde.** 'L'Idée d'opposition.' [Investigates the nature of our conception of opposition, its origin, and different manifestations in experience. Two terms are opposed, when we can go by a series of gradations from the one to the other, passing through an 'indifference' point. The notion of a series is essential to the idea.] **A. Naville.** 'Économique et morale.' [Maintains the positive character of political economy as a science dealing with the actual and not the ideal.] **B. Bourdon.** 'Expériences sur la perception visuelle de la profondeur.' [Monocular vision does not give us the perception of depth. For this there is required the convergence of two eyes.] Analyses et comptes rendus, etc.

No. 2. Février, 1897. **Pierre Janet.** 'L'Influence somnambulique et le besoin de direction.' [Discusses the characteristics of the hypnotic state and the precise nature of the influence that is exercised by the hypnotiser over his subject. The writer gives some interesting facts, and asserts that hypnotic suggestion is a valuable therapeutic agent.] **Parodi.** 'L'Idéalisme scientifique.' [Gives an account of the scientific and philosophic writings of M. Durand de Gros. The article deals chiefly with his physiology. De Gros held that mind and body interacted upon one another.] **G. Tarde.** 'L'Idée d'opposition.' [A continuation of the essay begun in the January number. It classifies the different kinds of opposition.] **L. Dauriac.** 'Idéalisme et positivisme d'après M. Fouillée.' [A critical review of Alfred Fouillée's two books: *Le mouvement idéaliste et la réaction contre la science*, and *Le mouvement positiviste et la conception sociologique du monde.*] Analyses et comptes rendus, etc.

No. 3. Mars, 1897. **F. Pillon.** 'La philosophie de Secrétan.—I. Métaphysique et théodicée.' [Secrétan based his philosophy on the moral consciousness. With him speculation led to the same conclusions as religious faith. Freedom, human and divine, was his catchword.] **L. Weber.** 'Le principe de non-contradiction comme principe dialectique.' [Deals with the nature of identity in connexion with a dialectic of thought. M. Weber criticises Hegel's Logic. The principle of non-contradiction must be accepted as an ultimate axiom. It is the regulative principle of dialectic, which consists in removing contradictions. An interesting and able article.] **Parodi.** 'L'Idéalisme scientifique.' [A second article on the works of M. Durand de Gros. Describes his theory of reality. M. Durand held a Spinozistic position. Everything is regarded as the manifestation of One Reality.] Revue critique, etc.

Revue de Métaphysique et de Morale. 5e Année, No. 1. Janvier, 1897. **J.-J. Gourd.** 'Les trois dialectiques.' [Science, Morality, and Religion, *i.e.*, theoretic, practical, and religious 'Dialectic,'—each of these is a work of skill or craft rather than of power. Their effect

depends on the plausibility of the *form* or *order* in which they present their data. The first is treated under the headings Empiricism and Rationalism, in an interesting paper, continued in the March number.] **B. Brunhes.** 'L'Évolutionisme et le principe de Carnot.' [How is the principle of the conservation of energy to be reconciled with evolutionism—with the principle of Carnot, *i.e.*, "The principle of the degradation of energy"?] **A. Spir.** 'Nouvelles Esquisses de philosophie critique (sixième article, *suite*): Essai sur les fondements de la religion et de la morale.' [Religion is the love of God; to love God is to love the good and true, etc., etc. Spinoza's *amor intellectualis dei* occurs to a reader of this article.] Discussions, etc.

5e Année, No. 2. Mars, 1897. **J.-J. Gourd.** 'Les trois dialectiques—(II.) *La dialectique pratique*.' [Treated under heads of: (*a*) *La morale du bonheur.* (*b*) *La morale du bien.* (*c*) *La morale de l'obligation.* (*a*) The very nature of pleasure creates a fatal obstacle in the way of eudæmonistic morality. (*b*) This, too, is shown to be unsatisfactory. (*c*) The nature of obligation is discussed. A final section states the relation between moral and theoretical dialectic.] **G. Séailles.** 'Les philosophies de la liberté.' [Commences with an historical survey, from Aristotle onwards, of the relation of the problem of Free Will to philosophy in general: evidencing a full acquaintance on the writer's part with the ancient Greek and Latin philosophers.] **Criton.** 'Cinquième dialogue philosophique entre Eudoxe et Ariste.' [The dialogue starts with the consideration of Reason itself, apart from its application to things.] Études critiques, etc.

Revue Néo-Scolastique. No. 13. **M. La Jour** ('L'Admiration') maintains that admiration is a state of consciousness awakened by an exhibition of will power, or of the control exercised over matter by a power of organisation or direction. He endeavours to make good this definition by an analysis of the various objects of admiration, physical force, agility, beauty, grace, address, etc. **M. Hallez** ('La vue et les couleurs') commences a series of articles on eight colours. In the present article, after discoursing on uniform, varied, simple and composite colours, and the principles which regulate the formation of composite colours, he institutes a quantitative analysis of composite colours, discusses the geometrical synthesis of colours, and sets forth the ancient theories on colour. S. Thomas, following Aristotle, had defined *time* as 'numerus motus secundum prius et posterius'. **M. Nys** ('La notion de temps d'après saint Thomas d'Aquin') asserts that this definition, properly understood, presents the true notion of time, and maintains that time consists of two elements, of which numerus is the formal and motus is the material element. Since, however, movement becomes formally and actually number only by means of an intellectual act which divides the continuous, M. Nys is of opinion that time and movement are *ontologically* identical, and that the distinction between them is purely logical. **M. de Baets** ('Une question touchant le droit de punir') endeavours to show that society, in punishing crime, ought to have in view the restoration of the moral order which has been disturbed by crime, not, indeed, the restoration of the moral order considered absolutely, for moral fault as such, or considered precisely as a violation of duty, does not fall within the competence of society, but the restoration of the social moral order. **M. Mercier** ('Discussion de la théorie des trois vérités primitives') undertakes to prove that this theory is of little value as against modern scepticism. M. Mercier even questions its value as against the old-fashioned forms of scepticism, and

points out that use was never made of it by Aristotle or by the better known scholastics.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xii., Heft 2. **J. von Kries.** 'Ueber die Wirkung kurzdauernder Lichtreize auf das Sehorgan.' [New experiments on recurrent vision. Failure of the phenomenon at the fixation point: its dependence upon adaptation. Comparison with the 'flickering heart' (Szili, etc.). Tentative explanation, in terms of the author's theory of vision.] **R. Simon.** 'Zur Lehre von der Entstehung der koordinierten Augenbewegungen.' [Empirism and nativism: Helmholtz *v.* Hering. Donders' proposal of crucial experiments on animals has never been taken up. Better are human cases of connate muscular anomaly, where binocular vision persists: *e.g.*, paralysis of the abducens or insufficiency of the superior and inferior recti and obliqui. Both tell for Helmholtz.] **E. Roemer.** 'Zur Frage der psychischen Zeitmessungen bei Geisteskranken.' [For Kraepelin, against Ziehen.] Litteraturbericht.

Bd. xii., Heft 3 und 4. **E. Koettgen** und **G. Abelsdorff.** 'Absorption und Zersetzung des Sehpurpurs bei den Wirbeltieren.' [The maximum of absorption for mammals (including man), birds and amphibia lies at about the wave-length 500, for fish at about 540$\mu\mu$. No evidence of visual yellow in animals.] **S. Witasek.** 'Ueber willkuerliche Vorstellungsverbindung.' [The two kinds of centrally aroused ideas: reproductive ("anschaulich") and surrogate ("unanschaulich"). Passage from latter to former is either direct, by way of consolidated contents, or indirect, part after part of the reproduction coming up. It involves an idea of relation. It depends on two factors: the proportion of directly to indirectly ideated attributes in the surrogate idea, the "Leistungsfaehigkeit" of that idea; and the disposition to the formation of the reproduction, the degree of practice. The two factors form inversely related continua. Characteristic of these connexions in general is a volition, whose object, an idea, is thought by the aid of a relation and another idea, which constitutes one term of this relation; the second idea must be different in contents from the idea willed, but have the same object; this condition affords a general determination of the relation. The four possible cases: reproduction to reproduction, reproduction to surrogate, etc. Relation to current views: Wundt, the associationists. (The article follows from Meinong's work on imagination, and uses Meinong's terminology.)] **J. Merkel.** 'Die Abhaengigkeit zwischen Reiz und Empfindung.' [Defence of the author's position against Meinong's attack.] **Guillery.** 'Vergleichende Untersuchungen ueber Raum-, Licht-, und Farbensinn in Centrum und Peripherie der Netzhaut.' [The magnitude of the physiological point (black on white), the magnitude of the surface necessary for the perception of a determinate brightness-difference, and the magnitude of that required for a determinate colour perception are ascertained at centre and periphery (four chief meridians) of the retina. The results, all reduced to terms of the physiological point, give an idea of the distribution of the various sensitive elements concerned over the retinal area.] **T. Lipps.** 'Berichtigung.' [To the author's paper on geometrical optical illusions.] Litteraturbericht. [Ziehen on Wundt's *Grundriss*.]

Bd. xii., Heft 5 und 6. **S. Exner.** 'Ueber autokinetische Empfindungen.' [If a point of light is fixated in an otherwise dark room, it appears to move. Our judgment of the direction of our line of vision is in any case very uncertain. The retinal local sign helps us, if several points are in the field at the same time. But the single point has a

'circle of action' on the retina, at any spot within which it may appear; and as we are trying to fixate, we think that its appearance at different spots means movement.] **W. A. Nagel.** 'Ueber kompensatorische Raddrehungen der Augen.' [Literature. Measurement methods: regular corneal astigmatism, after-images, blind spot. Experiments by last method; proof of torsion. Preliminary report of work on animals, and comparison of certain animals with men.] **E. Burmester.** 'Beitrag zur experimentellen Bestimmung geometrisch-optischer Taeuschungen.' [If two vertical parallels are cut obliquely by a transversal, itself not continued between the parallels, the two parts of the transversal appear not to belong together (Poggendorff's figure). The rule of the illusion is found to be as follows: The parallel displacement of the parts of the transversal is proportional to the distance separating the vertical parallels and the cotangent of the angle of inclination of the transversal; the vertical displacement is proportional to the same distance and the cosine of the angle of inclination; the angle of overestimation is dependent upon the angle of inclination and conditioned by the personal constant, but independent of the distance separating the vertical parallels. A similar rule holds for the figure obtained by reversing the direction of one of the parts of the transversal.] **E. B. Titchener.** 'Entgegnung.' [Reply to criticism of Heymans.] Litteraturbericht. Bibliographie der psycho-physiologischen Litteratur des Jahres 1895. [1588 titles.]

Philosophische Studien. Bd. xiii., Heft 1. **W. Wundt.** 'Ueber naiven und kritischen Realismus,' ii. [This second paper is devoted to the empirio-criticism of Avenarius and his school, which professes to make experience the basis of all criticism of concepts, whether philosophical, scientific or prescientific. The writer gives an exposition (1) of the general theory of the school, translating its terminology into ordinary language; (2) of the applications of the theory; and (3) of the special hypothesis of introjection. He then passes to a critical discussion of the presuppositions of the system. It conflicts with positive natural science in its assumption that thought of the object always carries with it thought of the ideating subject. Its 'System C' is really a metaphysical substance. Its reduction of quality to quantity is unjustified. Its 'objective' consideration confuses the two meanings of 'objective,' impartial and abstracting-from-subject. Its actual methods are not those officially recognised: they are the methods of psychophysical analogies (principle of practice) and of a peculiar dialectic. Its professed methods, on the other hand, are not strictly followed: they are the methods of economy of thought and of pure description. The system confuses didactic, methodologic and metaphysical economy of thought, inclining however to the last. And its description involves explanation. A third paper will discuss the historical relations of empirio-criticism, and its attitude to natural science and psychology.] **K. Marbe.** 'Neue Versuche ueber intermittirende Gesichtsreize.' [As the difference between two stimuli increases, the duration of the critical period decreases, at first quickly, then more slowly. This holds whether the mean intensity increases or diminishes with increase of the stimulus-difference. It holds also for subjective differences, and without regard to the mean stimulus-intensities corresponding to them. The duration of the critical period is determined by the objective stimulus-differences: approximately equal periods correspond to equal objective differences.] **M. Arrer.** 'Ueber die Bedeutung der Convergenz und Accommodations-bewegungen fuer

die Tiefenwahrnehmung,' i. [Repetition, with bettered apparatus, of Wundt's experiments. Literature. Experiments, monocular and binocular, with successive comparison.—The whole paper will be summarised later.] **J. M. Baldwin.** 'Bemerkung zu "Mental Development."'

Vierteljahrsschrift für Wissenschaftliche Philosophie. Jahrg. xxi., Heft 2. **R. v. Schubert-Soldern.** 'Über die analytische Methode und die Selbständigkeit der Philosophie.' [The function of Philosophy is to analyse concrete reality into its elementary conceptual components, and to determine what combinations of these are possible, and what impossible.] **W. Jerusalem.** 'Über psychologische und logische Urteilstheorieen.' [Restates author's classification of the forms of Judgment, and briefly vindicates his theory of the anthropomorphic nature and origin of the subject-predicate relation.] **O. Krebs.** 'Der Wissenschaftsbegriff bei H. Lotze' (Zweiter Artikel). [Lotze's concept of sense-experience; the material of knowledge; was Lotze a transcendental or subjective idealist? The significance of things for cognitive activity; how can the subjective spirit be acted on by objects? what is the relation of psychological process to logical thinking, and of metaphysical categories to logical forms? The unity of consciousness, thought and language, and intellectual intuition, in Lotze's philosophy. The sense in which Lotze regarded "things" as instrumental in the development of knowledge, and his view of cognition as dependent on the moral nature and destiny of man.] **R. Willy.** 'Die Krisis in der Psychologie' (Zweiter Artikel). Besprechung, etc.

Archiv für Systematische Philosophie. Band iii., Heft 2. **M. J. Monrad.** 'Das Ding an sich als Noumenon.' [The Noumenon is that which ultimately satisfies the demands of thought. This can only be the absolute reason which manifests itself in all appearance. A plea for the idealism with which we are familiar in England under the name 'Hegelianism'.] **Benno Erdmann.** 'Die psychologischen Grundlagen der Beziehungen zwischen Sprechen und Denken' (Fortsetzung). [Deals with optical recognition of letters and words in reading. A very interesting account is given of the verbal imagery of a visualiser.] **A. Marty.** 'Grammatisches, logisches und psychologisches Subject.' [A clear statement of Brentano's theory of Judgment, and a criticism of H. Paul. The writer denies that questions, commands, and the like, are, properly speaking, judgments at all.] *Jahresbericht* über die Erscheinungen auf dem Gebiete der systematischen Philosophie: i. **Paul Natorp.** 'Bericht über deutsche Schriften zur Erkenntnistheorie aus den Jahren 1894 und 1895.' ii. **E. G. Husserl.** 'Bericht über deutsche Schriften zur Logik aus dem Jahre 1894.' iii. **Josiah Royce.** 'Systematic Philosophy in America in the years 1893, 1894, and 1895.' Zeitschriften, etc.

Philosophisches Jahrbuch. Band x., Heft 1. **Dr. E. Rolfes.** 'Die Controverse über die Möglichkeit einer anfanglosen Schöpfung.' [Is the creation of the world in time an article of faith? The writer takes up Aquinas' refutations of the proofs to the contrary, and finds them insufficient. He prefers to say that eternal movement is impossible, but the bare idea of creation does not imply time.] **Professor Dr. J. Straub.** 'Gewissheit und Evidenz der Gottesbeweise.' [In this, the first of two papers on the subject, the writer sums up the Scholastic doctrine of the different kinds of evidence; he then sets forth the proof of God's existence as First Motor, and the corollaries—the aseity and

infinite perfection of God. The proof from the ideal world, or world of possibles, follows.] **Dr. Jos. Geyser.** 'Der Begriff der Körpermasse.' [This article, the first of a series, is chiefly devoted to the question of the infinite divisibility of matter. Though quantity is mathematically divisible *ad infinitum*, bodies are not so. We must admit the existence of individual atoms, having three dimensions in space, and containing no other smaller atoms.] **Mathias Kohlhofer.** 'Zur Controverse über bewusste und unbewusste psychische Acte' (Schluss). [Consciousness (Bewusstsein) is neither the same as perception (Erkennen), nor as self-perception (Selbsterkennen); both of these last, whether sensitive or intellectual, may take place in the absence of consciousness. But conscious states are so completely contrary to those unconscious that they cannot be thought to consist of the latter. Consciousness essentially implies the idea of the *I;* which animals cannot possess.]

Pflueger's Archiv f. d. gesammte Physiologie. Bd. lxi., Heft 7 und 8. **A. Kreidl.** 'Ueber die Schallperception der Fische.' Heft 9 und 10. **K. L. Schaefer.** 'Beweise gegen Wundt's Theorie von der Interferenz akustischer Erregungen in Centralorgan.'

Bd. lxiii., Heft 5 und 6. **M. Saenger.** 'Ueber die acustische Wirkung der Nasenhoehlen.' Heft 11 und 12. **J. R. Ewald** und **H. Willgerodt.** 'Zur Physiologie des Labyrinths, V. Die Beziehungen des Tonuslabyrinths zur Todtenstarre und ueber die Nysten'sche Reihe.' **A. Kreidl.** 'Ein weiterer Versuch ueber das angebliche Hoeren eines Glockenzeichens durch die Fische.'

Bd. lxiv., Heft 3 und 4. **F. Schenck.** 'Ueber intermittirende Netzhautreizung, I.' **With H. Schmidt.** 'Ueber den Einfluss von Augenbewegungen auf die Beobachtung rotirender Scheiben zur intermittirenden Netzhautreizung.' **P. Jensen.** 'Ueber den galvanischen Schwindel.' Heft 5 und 6. **A. Kuttner.** 'Die Hoerfaehigkeit labyrinthloser Tauben.' Heft 7, 8 und 9. **A. Fick.** 'Zur Theorie der Farbenblindheit.' Heft 10, 11 und 12. **A. Denker.** 'Ein Beitrag zur Lehre von der Funktion des Schalleitungsapparates des Saeugethierohres.' **F. Schenck.** 'Ueber intermittirende Netzhautreizung, II. Ueber die Bestimmung der Helligkeit grauer und farbiger Pigmentpapiere mittels intermittirender Netzhautreizung.'

Bd. lxv., Heft 11 und 12. **L. Hermann.** 'Kleine physiologische Bemerkungen und Anregungen.'

Kantstudien. Band i., Heft 2. **E. Adickes.** 'Die bewegenden Krafte in Kants philosophischer Entwicklung und die beiden Pole seines Systems, II.' **K. Vörlander.** 'Eine Socialphilosophie auf Kantischer Grundlage.' **W. Lutoslawski.** 'Kant in Spanien.' **E. Adickes.** 'Lose Blätter aus Kants Nachlass.' Recensionen, etc.

Rivista Italiana di Filosofia. November-December. **G. Villa.** 'La Psicologia dei Sentimenti.' [A Criticism of recent contributions to Psychology, with special reference to Ribot's *La Psychologie des Sentiments.* Against Ribot's theory, that pleasure and pain are indices (marques) of states of the organism, it is urged that Psychology would become a branch of Physiology, whereas the methods and objects of the two sciences are fundamentally different. On the question of moral pain Ribot is charged with laying too much stress upon the external manifestations; and hence includes it, as a species, in the genus physical pain. Similar objections are made to Ribot's analysis of the emotions, in which the organic state is alleged to be the most important

element. The discussion concludes with an investigation of the "intellectual feelings".] **A. Velardita.** 'Herbert Spencer e l'Evoluzionismo.' [Evolution, it must be remembered, is only a hypothesis containing two parts, gradation and transformation ; and it is contended that the latter is inadmissible. Extracts quoted from the works of Spencer, Haeckel and Professor Gasca show that they differ in important details, and further, it is added that Virchow does not admit Evolutionary transformation in Spencer's sense, while geological experts (Agassiz, Bianconi) do not admit his deductions in this field ; and, lastly, short passages are ingeniously quoted to show that, not only is Spencer refuted by other evolutionists and experts, but that he refutes himself. The argument follows the same method in a second part devoted to Social Evolution, in the course of which the "struggle for life" is characterised as introducing economic conditions which foster a *vae miseris* as barbarous as the *vae victis* of the ancients. The argument throughout is an acute iconoclastic attack upon the "Colossus of modern sociology".] **F. Ferri.** 'Del Bello nella Natura e nell' Arte.' [Continuation of an article already noticed. The writer discusses Good Taste, the Criterion of Beauty and of High Art, the Content of Art and the Division of Schools.] **E. Morselli.** 'Del Metodo nella Dottrina Morale.' [The method of Ethics should avoid the empiricism of the Evolutionists and the "formalism" of Kant. It should be neither spiritualistic nor materialistic, but, to be truly scientific, it should seek only to reconstruct objective facts with a due regard to contemporary science, and especially to economic laws.] Bibliografia, etc.

Vaprosi Philosophii i Psychologii. September, 1896. **N. A. Ivantsoff.** 'The Aims of Art.' [A paper on the aims of painting and sculpture. Beauty depends on the realisation of the artist's thought ; but in the present democratic state of society, both painting and sculpture have given place to the novel and the drama.] **N. Umoff.** 'Descartes' Place in the History of Physical Science.' [Descartes' system, excluding unknown and final causes, attempts to explain all phenomena in terms of space and time ; it goes much further than the system of Newton, with which it came into conflict.] **L. E. Obolenski.** 'Class-consciousness as a Factor in Social Progress.' [Class-consciousness is a feeling, by each of the members of a class, of what favours the interests of that class ; the evolution of that feeling accompanies the evolution of the class itself.] **S. N. Trubetzki.** 'The Principles of Idealism.' [Mystic idealism, especially as set forth in Hindu philosophy, has led only to negative results.] **Vladimir Solovieff.** 'The Moral Organisation of Mankind.' [There are two types of moral organisation : the family and the nation.] **L. Lopatin.** 'Descartes, as the Creator of a new Philosophical and Scientific View of the World.' [The writer criticises Descartes' method of setting aside all truths of which we can doubt, and notes his influence on later philosophers.] **W. Goltsen.** 'A Discussion with Obolenski on Class-consciousness.' **S. A. Suhanoff.** '"Neurons" in relation to certain Psychical Phenomena.' [Having stated what a "neuron" is in itself and in its morphological and biological relations, the writer points out the part which "neurons" play together, especially in relation to psycho-pathology.] **A. Dżyvelegoff.** 'Vico and his Philosophy of History.' [Vico has great merits, and though his chief idea—the repetition of certain typical forms in history—is not verified by facts, he has made many discoveries wrongly ascribed to other writers.]

IX.—NOTES AND NEWS.

ON THE TEMPERATURE-SENSES.

I.

Experimental Contributions towards our Knowledge of the Cold- and Warm-spots of the Skin.

The following is a *résumé* of the contents of an article which is being printed *in extenso* in *Upsala Läkareförenings Förhandlingar* 1897, and in *Scandinavisches Archiv für Physiologie* 1897. In the following *résumé* I have as shortly and concisely as possible brought forward the work already done by others, also reducing the critical remarks I might like to make on their work to a minimum. As to these remarks, and as to other sides of my work, I beg to refer the reader to the above-mentioned annuals. The observations were made at the Physiological Laboratory of this town and began in April, 1896.

INTRODUCTORY.

As is well known, *Magnus Blix* [1] has shown that the different kinds of sensations which are to be had from the skin can be attained only from certain distinctly localised spots, which we might call sense-spots. Thus he demonstrated that for instance sensations of warmth can be got only from certain warm-spots and sensations of cold only from certain cold-spots and that the skin between these spots is insensitive to cold and warmth. *Blix* stimulated the skin with pointed objects, employing electrical stimulation (induction-currents) as well as thermal (warm and cold metal-points).

These observations have been confirmed by *Donaldson*,[2] *Goldscheider*,[3] *Eulenburg* [4] and others. On the other hand they have been of late severely criticised and even more or less denied by *Dessoir* [5] and *Kiesow*.[6] *Dessoir* considers that the temperature-spots have been obtained by artificial means: they are the result of suggestion, of unequal pressure of the skin by the cold and warm points, etc. *Kiesow* denies the truth of *Blix*' discovery in so far only as he gives out that he has hardly ever found a cold-spot which cannot be made to give a sensation of warmth from a certain temperature upwards (+ 47 - 50° C.). These two last assertions seem to justify the holding forth of certain measures as necessary when investigating these matters. These are (as already given out by *Blix*): 1, the stimulus must not be too strong, else the adjoining parts of the skin will also be affected; 2, the stimulus must be punctiform enough—else the metal-point may cover a cold- and a warm-spot at the same time.

ADEQUATE THERMAL STIMULATION.

Working in this way, and using thermal stimulation, I have been able to once more corroborate *Blix*' observations. *Dessoir* and *Kiesow* seem to have neglected the rules laid down above, simple and indispensable as they may appear. Hence their assertions.

I may perhaps also mention the following facts. A hundred and twenty-six medical students have, during the last ten years at the Physiological Laboratory here, mapped out their temperature-spots on different parts of their skin. When tested (eyes shut) they have hardly ever been found to make a mistake. The fact that surfaces of up to one square centimetre and more can be found, from which no thermal sensations at all can be got, is perhaps the best proof that the whole of the skin is not sensitive to warmth and cold.

The temperature-spots differ from each other as to their sensibility, so that some spots need a stronger stimulus to bring forth a just perceptible sensation (minimum perceptibile) than others, but also so that some spots give a remarkably stronger sensation than others when stimulated by metal-points of the same temperature. These two factors seem to run parallel.

MECHANICAL STIMULATION.

Goldscheider was the first to observe that the temperature-spots can be excited by mechanical means—for instance by a sharp-pointed bit of wood. *Donaldson* and *Kiesow* have found this true. In fact, some of my cold-spots seem so sensitive to this kind of stimulus that the lightest touch brings forth a sensation of cold. By mapping out on the skin with cold and warm points all temperature-spots within a certain space, and then, eyes shut, letting another person excite them by pressure, an *objective* proof can be obtained of the efficiency of mechanical stimulation —just in the same way as of thermal, as shown above.

ELECTRICAL STIMULATION.

(1) *Induced Current.* Special care must be taken so as to avoid thermal and mechanical stimulation when wishing to get temperature-sensations *only* from the excitation to be had with an induction-current.[1] Great stress must also be laid on the necessity of having the current of proper strength —it is best to begin with hardly perceptible currents. The curious pricking sensation which this sort of stimulation generally excites in the skin will be found, if the current is not too strong, to give place to a *pure* sensation of warmth or cold on the temperature-spots. On certain other spots ("pressure-spots") it will give place to a peculiar hammering sensation—a series of light knocks ("Hämmern" according to *v. Frey*), whilst on still other spots (probably the most sensitive "pain-spots") a smarting feeling will predominate. The cold-spots seem to answer to weaker currents and also more rapidly than the warm-spots do.

(2) *Constant Current.* The temperature-spots cannot, as far as I can find, be stimulated by the constant current as such, even if the stimulation be made as punctiform as possible. No sensations, in fact, are obtained until the current is made so strong that evident electrolytic processes appear in the skin. But then they do result, almost always accompanied by pain so sharp that their existence becomes sometimes

[1] Platina wire of about 0·17 millimetre diameter and of ordinary temperature (+ 18° C.) seems to meet the demand on the sort of electrode required.

rather difficult to recognise. From the cold-spots I have been able to get sensations of cold not only during the current but also when making or breaking it. From the warm-spots only during it, and even then with difficulty. The skin gets brown, a thick yellow fluid coming forth. The spots cannot react afterwards, at least for some time, as they are destroyed; whether they can be regenerated, I am not at present prepared to say.

INADEQUATE THERMAL STIMULATION.

(1) *v. Frey* [7] describes a phenomenon which he has called "*paradox sensation of cold*," and which consists in the fact that cold-spots (some of them) can be made to give sensations of cold when stimulated with warm metal-points of 45° C. and upwards. When trying to test this observation, I thought first that the sensations were due merely to mechanical stimulation. I soon found, however, that this could not be the case, for when I increased the temperature of the points more and more (at last up to + 100° C.), the sensations of cold were also found to become stronger and stronger. The crucial test I made by using a small convex lens, through which sunrays were allowed to pass and which I held at such a distance from the skin that the focus fell on a cold-spot. By screwing the lens in a certain manner (so as to get just the proper amount of warmth on the cold-spot) I could distinctly observe sensations of cold, when the spots were excited in this way. By mapping out cold-spots with cold points and afterwards letting another person stimulate my skin with hot points (+ 75 – 100° C.), while I kept my eyes shut, I obtained also in this case an *objective* proof of the truth of *v. Frey's* discovery—the possible workings of my imagination being thus eliminated. This observation is, according to my opinion, of the greatest importance for the understanding of the sensation of "heat". I hope to be allowed to treat of this in a following paper.

(2) Naturally I have tried to find out if "*paradox sensations of warmth*" also exist. But the stimulation of warm-spots with metal-points of all degrees of cold (down to about – 70° C.) did not bring forth any sensations of warmth.

CHEMICAL STIMULATION.

As chemical substances are known to stimulate the skin, I wanted to try their effect when strongly localised to sense-spots. By applying small drops of different substances in liquid form (nitric and sulphuric acid (conc.) and alkali), the cold-spots were found to give sensations of cold, the warm-spots of warmth. No sensations of warmth or cold could be had from other spots of the skin.

SENSATIONS OF PRESSURE.

As far as I have been able to observe, the temperature-spots are not in the same degree capable of sensations of pressure (tactile-sensations) as the so-called "pressure-spots" (*Blix, Goldscheider, v. Frey*); *i.e.*, the former need—just as the skin in general—stronger pressure than the latter before sensation ensues.

SENSATIONS OF PAIN.

When wishing to ascertain if the temperature-spots are sensible to pain, care must be taken to get a sensation of cold (warmth) from the spot marked as a cold- (warm) spot, because without such a sensation there is no surety that the spot itself has been attained by the stimulus applied; exciting then the spots with various kinds of stimulus capable

of bringing out pain on other parts or spots of the skin, such as running needle-points into them, exciting them with hot and cold metal-points, induced currents, etc. I found the spots *in most cases* insensible to pain. This seems enough to prove their analgesia—it cannot be necessary to demand analgesia for *every* spot when consideration is taken of the facility with which pain can be had from such large parts of the skin, or speaking with *v. Frey*, in view of how close to each other the so-called "pain-spots" lie. It would in fact be curious if, for instance, the same needle-point did not now and then bring forth sensations of cold (warmth) *and* of pain simultaneously.

CONCLUSION.

These investigations seem to show, amongst other things, that the cold-spots are not capable of giving any other sensations than cold, and the warm-spots no other than warmth, whatever known stimulus may be used. The results can therefore in every respect be said to corroborate "the law of the specific energies of the nerves".

Terms.—Donaldson was the first to use the terms "cold-" and "hot-spots," which have ever since been employed. It seems, however, advisable to use the term "warm-spots" instead of "hot-spots". The reason for this I will give in a following paper.

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[1] Magnus Blix, *Upsala Läkareförenings Förhandlingar* 1883; *Zeitschrift f. Biologie*, xx., p. 140, 1884.

[2] H. H. Donaldson, "On the Temperature-sense," MIND, July, 1885.

[3] A. Goldscheider, "Neue Thatsachen über die Hautsinnesnerven," Du B. Reyms., *Arch. f. Phys.*, 1885, supplem.

[4] A. Eulenburg, "Zur Methodik d. Sensibilitetsprüfungen, etc.," *Zeitschr. für klin. Medic.*, p. 174, 1885.

[5] M. Dessoir, "Über den Hautsinn," Du B. Reyms., *Arch. f. Phys.*, 1892.

[6] Fr. Kiesow, "Untersuchungen über Temp. empfindungen," *Philosoph. Studien*, 1895.

[7] M. v. Frey, "Beiträge z. Sinnesphysiol. d. Haut," *Berichte d. mat. phys. Classe d. K. Sächs. Ges. d. Wissensch. zu Leipzig*, iii. *Mittheil*, p. 172.

SYDNEY ALRUTZ.

PSYCHOLOGICAL LABORATORY AT UNIVERSITY COLLEGE, LONDON.

A Laboratory for Experimental Psychology will be opened in University College, London, in October next. The Committee have secured a considerable part of the apparatus collected by Prof. Hugo Münsterberg of Freiburg, who is about to migrate permanently to Harvard College. Among those who have contributed to the movement are Mr. F. Galton, Prof. Hy. Sidgwick, Mr. A. J. Balfour, Mr. R. B. Haldane, Sir John Lubbock, Mr. Shadworth H. Hodgson, and Dr. Savage. It is hoped that the name of George Croom Robertson may in some way be connected with the laboratory. It is further hoped that Dr. W. H. R. Rivers, whose work as a teacher in Cambridge and elsewhere is well known, will be able to start the work of the laboratory and superintend it during the October term.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—RICHARD AVENARIUS AND HIS GENERAL THEORY OF KNOWLEDGE, EMPIRIOCRITICISM.

By Dr. Friedrich Carstanjen, Zürich University.

(*Translated by* H. Bosanquet.)[1]

When Richard Avenarius, Professor of Philosophy at the University, died at Zürich on 18th August, 1896, only a very small circle of philosophers and pupils knew what a powerful mind had been snatched from amongst them; for he was a man whose unique thought was unappreciated by his contemporaries solely because it was unique, and diverged too much from what was previously familiar.

Concerning the life of this philosopher I will merely state briefly that he was born at Paris, 19th November, 1843, that he first devoted himself (by his father's wish) to the book trade, but afterwards studied—for the most part philosophy—at Zürich, Berlin, and Leipzig; in 1876 he attached himself to the University of Leipzig, and in 1877 was called as Professor of Philosophy to Zürich. In 1877 he instituted, with the help of C. Goering, M. Heinze, and W. Wundt, the *Vierteljahrsschrift für wissenschaftliche Philosophie* and continued it until his death, latterly with the help of M. Heinze and Al. Riehl.[2] In addition to several smaller contributions

[1] For certain awkward expressions Mrs. Bosanquet is not responsible. Without them it is impossible to give correct rendering of the peculiarities of the terminology of Avenarius.

[2] The *Vierteljahrsschrift für wissenschaftliche Philosophie* is now edited by Fr. Carstanjen and O. Krebs, with the help of E. Mach and Al. Riehl.

to this periodical, Avenarius published *Ueber die beiden ersten Phasen des Spinozischen Pantheismus und das Verhältnisder zweiten und dritten Phase, nebst einem Anhang über Reihenfolge und Abfassungszeit der älteren Schriften Spinoza's* (Leipzig, 1868); *Philosophie als Denken der Welt gemäss dem Prinzip des kleinsten Kraftmaasses, Prolegomena zu einer Kritik der reinen Erfahrung* (Leipzig, 1876); *Kritik der reinen Erfahrung* (Leipzig, 1888-90); *Der menschliche Weltbegriff* (Leipzig, 1891).

In his principal work, the *Kritik der reinen Erfahrung*, Avenarius first makes the attempt to describe all theoretical activity, in itself and in its relation to practical activity (which he also describes more generally) as conditioned by analytically determined changes of the nervous central organ. In this way he arrives at a formal and general theory of human knowledge and action; he endeavours to limit scientific philosophy critically to the descriptive definition of the general idea of experience in its form and context. The following pages, composed at the request of the Editor of MIND, aim at giving a short survey of the new theory, without pretending to exhaust the rich material, or to deal with questions raised in recent discussions.

The best proof of the importance of a theory must be its fruitfulness. But a system so strikingly original as that of Avenarius, and starting from such completely new points of view, contains the promise of great fruitfulness in the mere fact that it directs us into new ways, opens out new perspectives, and shows how it is possible to get quite a new light upon the old problems which are constantly being turned over and over in the same way. This must always have a refreshing and stimulating effect.

Prof. Max Müller has remarked in his *Gifford Lectures* that the human mind has been slowly compelled to admit its entire incapacity and ignorance as regards the relations of the noumenal and the phenomenal. Avenarius has once more removed this agnosticism. He showed that this incapacity and ignorance existed only because the whole problem had been wrongly stated, and that Philosophy had run into a *cul-de-sac* from which she had so far vainly sought an issue. And thus he constructed a theory which not only satisfied the demand that it should be in itself theoretically valid and logical, but which at the same time harmonised with practice and with the common-sense view of the universe.

Avenarius called his theory "Empiriokritizismus". What does this name mean?

The elements from which the word is compounded are Empiricism and Criticism. As in natural science, and to

some extent also in the art of medicine, philosophical empiricism will accept nothing but experience, and will build upon no other basis; but it forgets to determine accurately the concept of experience from which it starts. The "critical empiricism" which, since Hume, has set about its work more cautiously, looks for the universal element in experience; it tries to find how far we can attain through experience to universal and necessary knowledge, or how far we are forced, by a speculative construction upon the basis of experience, to supplement it by logical inferences. "Criticism," finally, has for its aim, since Kant's time, to establish critically the possibility of knowledge, no matter whether it leads us to a positive or negative result.

Empiriocriticism, on the other hand, takes up the position that everything is experience when it has been stated as experienced by an individual—though it may be that primarily it is only experience for this one individual in question. (If, *e.g.*, a child states that it has seen angels, then the angels are an experience for the child.) But then we investigate the difference between this concept of experience which is valid for the individual and the concept of experience which is universally valid (*interindividuell gültig*). Thus empiriocriticism also approaches experience critically, but it does not determine its concept of experience beforehand; it begins by admitting everything as experience, provided only that it is at the moment predicated and characterised as experience by an individual. It does not arbitrarily limit its sphere, but says: If I am to approach experience critically, then I must include in the object of my investigation all predications which contain an experience; I must not prejudge the question of true and false, for the decision as to that can only follow from the theory.

Empiriocriticism is then not empiricism; moreover, it approaches its task purely speculatively (in the good sense of this much-abused word), although it builds entirely upon the results of the natural sciences. This speculative character may be frankly conceded without fear of confusion with the speculative method of metaphysics. The speculation in the empiriocritical theory does not extend to the contents of knowledge and experience, but to their universal form. Only the speculative investigation of the contents of knowledge has proved itself to be unfruitful and unscientific.

The *Kritik der reinen Erfahrung* is not only a theory of experience, but, inasmuch as experience is a species of

the genus knowledge, it is also a theory of knowledge. And while in all special theories of knowledge philosophers endeavour to develop what in particular they mean by knowledge, Avenarius, on the contrary, aims only at presenting the common normal element in all such theories, the universal norms according to which individuals determine Being and Knowing. Ultimately, therefore, the *Kritik der reinen Erfahrung* is not only a general theory of knowledge, it is also a general theory of human norms.

What, then, is the standpoint from which the *Kritik* starts? It is not that of a preassumed and dogmatically determined experience, upon which is based the critique of all philosophical or other scientific or prescientific concepts. On the contrary, it is so general that Avenarius cannot describe it better than by saying: my standpoint is purely local. He includes no other standpoint than that where he stands, purely locally in the midst of his surroundings. As Greek tradition says of the philosopher, he stands in the throng of the market-place, not as buyer or seller, but as beholder of all the traffic; he passes through distant lands and mingles with strange peoples, not for the sake of any business, mean or lofty, but in order that he may observe.

We must, however, have some presupposition from which to proceed. That to this presupposition and to its being rightly presented great importance attaches, will be clear to every philosophical reader; everything depends upon the presupposition; if this the foundation of the building does not stand firm, the whole erection will totter.

In stating his presupposition Avenarius begins by banishing from it everything which belongs to particular and specific philosophical tendencies, and which may be regarded as variations of a proposition originally accepted by all men. Thus he proceeded to abstract what had been first introduced into his own view of the universe by the fortuitous and changing influences of life and school, and obtained the following result:—

"I, with all my thoughts and feelings, found myself in the midst of an environment. This environment was compounded from manifold parts which stood to each other in manifold relations of dependence. To this environment belonged also fellow-creatures with their manifold statements; and what they said for the most part stood again in a relation of dependence to the environment. For the rest, my fellow-creatures spoke and acted as I did; they answered my questions as I answered theirs; they sought after the various parts of the surrounding or avoided them,

changed them or sought to maintain them unchanged; and that which they did or left undone they described with words, and gave reasons and purposes for deed and omission. All this they did even as I myself; hence I thought not but that my fellow-creatures were beings such as myself, and that I was a being such as they."[1]

Starting from this first natural idea of the universe, Avenarius arrived at the fundamental presupposition, which he has placed at the beginning of his *Kritik der reinen Erfahrung*, and which runs as follows: "*Every human individual originally accepts over against him an environment with manifold parts, other human individuals making manifold statements, and what-is-stated in some way dependent upon the environment*" (*Kritik d. r. E.*, vol. i., p. vii.).

The presupposition of every science is an assumption that cannot be proved. But just because it cannot be proved, it must, if it is to serve as the presupposition of a scientific system, be privileged as an irrefragable axiom; hence it must not only be as simple and natural as possible, must not only be theoretically correct in itself, it must also agree, both in itself and in the consequences to be deduced from it, with practical life. In one word, it must be not only logically tenable but also biologically tenable and necessary. However differently our views of the universe may shape themselves in detail, they must be based upon this presupposition as their common and most frequently recurring element. And just because it includes only this common element, it will have a universality which differs only from universal validity because, when Psychologies or Philosophies have changed and troubled their view of the universe, individuals no longer recognise the presupposition which is actually a necessary element of their original view of the universe. But in its fundamental presupposition Empiriocriticism is not concerned with that which has developed itself for particular individuals as what to them is logically tenable, but only with such elements as are most often recurrent in all points of view, and ultimately prove to be alone *biologically* tenable.

Does the presupposition with which Avenarius heads his work satisfy these conditions? Yes! It is the common element most often recurring in all views of the universe; all are originally based upon it, it belongs to no one specially, it is undogmatic, theoretically tenable and in harmony with practical life.

[1] *Der menschliche Weltbegriff*, by Richard Avenarius, p. 4. Leipzig: O. R. Reisland, 1891.

It may be objected here: How can that be undogmatic? it is the view of a naïve Realism, and how can it also form a fundamental aspect of Idealism? Here we might answer: Even the most advanced idealist originally accepted his environment as an actually-existent, or as he is wont to call it "real"; for how would it be possible to designate anything as "appearance," etc., or as "non-existent" if he had not originally found it confronting him? Nevertheless Avenarius intentionally omits from his presupposition every specific characterisation of the environment, such, for instance, as is undertaken even by a naïve Realism. The environment is not taken either as "phenomenon" or as mere "appearance," nor as a "middle" between "being and not-being" or as "not-being"; but then neither is it taken as "real," "actual," or "true". For the plain man the characterisation as "actual," "real," does not supervene until he has busied himself with the opposite concept of a "not-actual" or "unreal"; until then, the universe for him is simply there, and he does not reflect upon the specific characterisation of this "being-there".

Thus the empiriocritical presupposition is itself a ground for determining the relation of the "I" to the environment in such a way that both are present as common and inseparable elements. Avenarius says: "We find not only our environment but also ourselves. Our 'I' is found to be present just as much as the environment." This interconnexion and inseparability of the "I" and its surrounding, this essential and inseparable association and homogeneity of the two coordinated values, is described by Avenarius as the "*empiriokritische Prinzipialkoordination*".

This co-presentation of the two members, the corporeal presence of the human being and the spatial presence of the object, other modern philosophers include in the philosophical concept of the "I"; but then they either end in subjective Idealism, which is a flat contradiction to practical life and common-sense intuition, or they give a meaning to the word "I" which it does not possess in our ordinary speech, and in so doing merely add to the confusion of tongues in the sphere of Philosophy. Is it not better to strike out an entirely new conception, such as that of essential coordination? It may be inconvenient—as we have to form this conception for ourselves—but it is exact, easy to handle, and fruitful.

Just as other philosophers have regarded the assumption of a soul as the emanation of some special theory, so Avenarius regarded such assumptions as are implied in the

phrase "immediate datum of consciousness". To start from "consciousness" or from "thought" as immediately certain was for him to start from the end. He would have no starting-point except the empiriocritical presupposition. Upon this alone he constructs his theory as follows:—

He analyses the presupposition and finds that it contains three members: (1) the environment and its component parts; (2) fellow-creatures and the self; (3) human statements. Here it becomes necessary to make the reader acquainted with several symbols introduced by Avenarius. Every value which is accessible to description, in so far as it is assumed to be a component part of the environment, he denotes simply by R. In this sense Avenarius speaks of things in space, of physiological stimuli, as R-values. On the other hand, every value accessible to description, in so far as it is accepted as the content of the statement of another human individual, is denoted by E. The contents of statements are E-values.

Finally, that part of the more comprehensive system of nervous central organs in which are collected the changes which issue from the periphery, and from which issue all changes to be passed on to the periphery, is called SYSTEM C (central system). The more exact anatomical and physiological determination and limitation of this system Avenarius purposely reserves, because it has not yet been sufficiently ascertained by the exact sciences, and also because he has no need of it for his purpose.

If, now, we inquire in what manner the statement-values, or as we may say, the E-values, are conditioned by individuals and by the environment (that is, by the R-values), we find that the statements are conditioned only *indirectly* by the environment and its changes, but *directly* by individuals, and more especially by their nervous central organ, by System C and its varying states. But if this is the case the necessity becomes clear of first analysing these varying states of the nervous central organ. This is done in the first volume of the *Kritik der reinen Erfahrung*.

The human individual is assumed to be such that it is able to maintain itself within certain limits. This relative maintenance of the individual will be most closely connected with the maintenance of the most central system, and this in proportion as the System C is developed according to its functions. Here there is no attempt to attribute to System C anything like a *striving to maintain itself*. In pure description, without any admixture of metaphysical anthropomorphism, we can never say an organ strives for something—either for

stability or for change. We simply affirm the fact that system C, when subjected to the stimuli which crowd upon it, does not immediately perish, but maintains itself for a definite time, not absolutely but with diminutions of its maintenance; and after having affirmed that, we can only state the conditions of the maintenance.

The stimuli from the environment, the R-values, are primarily to be regarded as threats, as disturbing influences, as occasions capable of breaking down the maintenance of system C, and thus we find two values: (1) that of a *disturbance* of the vital maintenance, and (2) that of a re-approach to the (ideal) maintenance-maximum.

The greatest conceivable vital maintenance-value must not be identified with anything like the greatest conceivable pleasure, or the greatest development of power. Its significance is not psychological, but only logical, and as a *constant* value is unattainable in life. Psychologically it may be compared with the Nirvana of Buddhism, which is explained as the absolute cessation of the bodily and mental activity which is conjoined with personal existence, as the absolute rest which the Oriental takes to be the highest pleasure. In the *purely logical* significance, in which alone empiriocriticism uses the value "vital maintenance-maximum," it signifies only an ideal point, about which the life of the organism moves in constant oscillations, like the indifference-point between pleasure and pain, which also has only a logico-mathematical significance.

Now, vital disturbance is one of those changes in the state of the nervous central organ which we have noticed above, and by which the E-values are directly conditioned. But this change may be more accurately described; it has a special character. If I break a stick, that is changing it; but the stick never becomes whole again. It is different with the nervous central organ. When changes take place in it there are generally present also the conditions which annul the change. Vital disturbance is for the most part gradually annulled; then the system C approximates again to its maximum-maintenance. Thus the change which we have here differs from that in the stick inasmuch as it consists in an oscillation between two phases, in deviation from a preliminary value and in approximating to it again. Thus we have to do with a *process* of change which is itself compounded from various changes.

All R-values, the totality of all physiological stimuli, condition the deviations from the vital maximum of maintenance. But what are the conditions of the annihilation of

this disturbance, *viz.*, of the re-approach to the maximum of maintenance?

The environment, which is primarily hostile, must nevertheless be regarded also as favourable to maintenance, as *maintaining*, in so far as it is considered as *training* the individual in habitual modes of behaviour; and this concerns not only the environment in particular factors, not particular R-values, but all together. The same stimuli which condition a vital disturbance, contribute also to maintenance, and *vice versâ*. *Work*, for instance, is not an exclusively *destructive* factor; while, on the other hand, *nourishment* is not an exclusively maintaining factor. This is proved by the fact that an organism degenerates and finally perishes just as much when it is merely nourished (without being subjected to work), as when it merely works (without being also nourished).

Our maintenance is then conditioned by an equilibrium between a customary work-process, and a customary nourishment-process. On the other hand, by the preponderance of the one factor over the other, *viz.*, by an alteration in the amount of exercise of one of the two factors, a deviation of system C from this equilibrium of the maintenance-maximum is given, and this deviation Avenarius calls a *vital-difference*.

Now this is a very important conception, for by placing our whole life with all its action and thought in relation to the vital maintenance-maximum, we can comprehend this action and thought also in its totality as depending upon such vital-differences and their annulment. "Life" is not inaction and rest, but movement; and movement is here equivalent to continual oscillation about an ideal point of rest.

Thus the process of change in the nervous central organ begins with the vital-difference; with the annulling of the vital-difference the process of change in each particular case attains its end. All the changes which lie between this beginning and end follow each other immediately; they form a series, which Avenarius calls the *vital-series*.

We will first consider the case in which a vital-difference arises as follows: A uniform increase of nourishment may take place in some individual, and may then be annulled by an equally uniform increase of work. Both must be habitual and familiar to the individual in question, and both together form a vital-series of the first order.[1] Thus the vital-series of the first order would be composed in this way:—

[1] For the sake of brevity I may here disregard the fact that Avenarius particularises and describes a third special and concluding term in the series.

(1) *Habitual increase of nourishment;* (2) *Habitual increase of work.*

Let us now see what significance that has for our action and thought. It is unnecessary to deal further with the process of nourishment (I may even assume it to take place during the night's sleep); then I have only to explain more in detail in what the work-process for a vital-series of the first order consists.

Since this work-process is taken to be completely uniform, habitual and familiar, its chief characteristic will be that it excites no attention from us, that we are not conscious of it. Such a uniform familiar increase of work is given to us in our daily movements, in the amount of light, sound, touch and other stimuli which are daily necessary to us. We arise from our couch in the morning strengthened and refreshed by sleep, provided, as we are accustomed to say, with a certain amount of elasticity; or, to speak in the more accurate language of empiriocriticism, provided with a certain uniform habitual increase of nourishment. In this alone is already contained a vital difference of the first order, a deviation from the maximum of maintenance. Now in so far as system C maintains itself, this demands to be annulled, and for this purpose all the accustomed stimuli of the environment form conditions for working it off.

Here belong even such uniform and familiar work-values as the home as such; the size of the room, the colour of the walls, the ornaments on the wall, domestic arrangements (in space and time), our parents as the confidential friends with whom we share our experiences, the tacitly assumed understanding with our fellow-men, their estimation of us, in fact all the thousand details of manners and intuitions which we have in common with our surrounding, details which are really active at every moment, but to which—so long as they are active—we do not attend at all. In all these we have most important work-values, which constitute our "ordinary," if you like "philistine," life, and to a large extent also the "standard of life," work-values which we would not and could not do without, but of which we are not generally conscious until they are absent.[1]

Let us now pass to the *second case.*

It will not always happen that a given familiar increase of nourishment will find for its compensation just that increase of work which is *suitable* and also *familiar.* Indeed it hap-

[1] See my introduction to the *Kritik d. r. E.*, under the title: "Richard Avenarius' biomechanische Grundlegung der neuen allgemeinen Erkenntnistheorie," München, 1894 (p. 119 ff.).

pens only too often in life that an increase of work is given which has *not* the value of a familiar one. This unfamiliar increase of work, then, has the significance of a *variation of work*.

With this variation of work is introduced a vital-difference of a higher order, the vital-difference κατ'ἐξοχήν. In so far as system C (and with it the individual) maintains itself, we must think of it as passing to definite changes of itself, by means of which the variation in work is annulled; and these changes will continue until a change supervenes, such that by it system C again attains for the moment to its vital maximum of maintenance. That these changes in system C are of a most manifold and complicated kind is a matter of course. That need not prevent us from comprehending them for the present under the name "Compensating-adjustments of system C". Thus we are enabled briefly to review the terms of a *vital-series of the higher order*.

It will be composed, *e.g.*, of the following terms: (1) *Habitual increase of nourishment;* (2) *Habitual increase of work, set for a short time;* (3) *Variation of work;* (4) *Compensating adjustments until the vital-difference is completely annulled.*

Here again we may consider what significance this series has for our action and thought. As an instance which indicates all these terms neatly and clearly I select the well-known one from F. A. Lange's *History of Materialism*, vol. ii., p. 370. "A merchant sits comfortably in his arm-chair, and does not himself know whether the greater part of his Ego is occupied with smoking, sleeping, reading the newspaper, or digesting. A servant enters, bringing a telegram in which is written: 'Antwerp, etc. Jonas & Co. have failed.' 'Tell Jacob to harness the horses.' The servant flies. The man has sprung up, wide awake; he takes a few steps through his room, goes down into the office, informs his representative, dictates letters, sends off telegrams, and gets into his carriage. The horses snort; he rushes to the bank, to the exchange, to his business friends—before an hour is over he is again at home, throwing himself into his arm-chair and sighing: 'Thank God, I am safe from the worst. Now to consider further.'"

All that the merchant does and says are for empiriocriticism E-values, which are conditioned by certain changes in the system C belonging to the merchant in question. I will analyse this more fully.

"The merchant sits comfortably in his arm-chair"—we think of his system C as provided with a uniform habitual

increase of nourishment (term 1). The characteristic expression "he himself does not know, etc.," shows us neatly how the subsequent work-values, being habitual and familiar (term 2), attract no attention to themselves. It is the *usual* cigar which the merchant smokes, it is the *usual* newspaper which he reads, *familiar* in form and type, in its political views, etc.,—and it is also the *familiar* environment in which he finds himself, so familiar that he no longer notices its arrangement, its component parts and their qualities. As yet then we are still dealing with a vital-series of the first order like those mentioned above. (The two first terms of a vital-series of the higher order coincide with the terms of a vital-series of the first order.)

Now something fresh intervenes, the telegram: "Jonas & Co. have failed". What is now introduced no longer fits in with the course of a vital-series of the first order as sketched above (p. 458). An increase of work is indeed given, but its value is no longer that of a *habitual* one. Here then we have the varied relations of the second case, a vital-difference of the higher order, characterised by the appearance of a variation in work (term 3).

All that the merchant thinks and does in the time subsequent to the receipt of the news, all his action and thought, is to be taken as dependent upon the very varied and manifold *adjustments of system C*, which finally annul the variation which has been introduced—in so far as system C asserts itself under the diminution of its vital maintenance-value (term 4). In conclusion, however, such a change is brought about in system C as actually annuls the variation of work. Upon this depends the concluding E-value of the individual in question: "Thank God, I am safe from the worst".

I have already mentioned that the adjustments of system C in annulling its changes may be most varied in kind. In the first volume of the *Kritik* Avenarius submits them to a searching investigation. From this I select only the distinction of changes conceivable in system C into ectosystematic and endosystematic. Those changes are called ectosystematic which, though their first phases occur in system C, complete their course outside of it, as in movements of the limbs. Those changes are called endosystematic which take place entirely within system C. When, for instance, something is lost, the vague running and searching for it depends upon ectosystematic changes; the reflective consideration of the circumstances in which it was mislaid or lost depends upon endosystematic changes. When philosophers try to solve the ques-

tion as to the "origin of consciousness" by "thought," this solution depends upon endosystematic changes; when the physiologist, on the other hand, institutes practical experiments in reference to this problem, it is by means of ectosystematic changes that the vital-difference is annulled.

From his detailed analysis Avenarius gets as the most important of the endosystematic (*i.e.*, occurring within system C) adjustments—

(1) Temporary *superseding* of an unfamiliar kind of change by a familiar, upon which depends the reduction of the Unknown to the Known;

(2) Gradual habituation to a kind of change, which in its original unfamiliarity signified a vital-difference; upon this depends the gradual growth into another and originally strange apprehension; the Unknown becomes a Known.

(3) Temporary *substitution* of one kind of change for another, giving rise to permanent tendency to the mode of change substituted. Upon this depends the origin of statements which are fixed and unalterable, the so-called True, the Certain, the Eternal, etc., while at the same time that which to begin with had been true becomes untrue and uncertain.

We began by pointing out (what is here again clear) that the processes of change in the nervous central organ are analysed by Avenarius not for their own sake only, but because he aims more especially at establishing the relation between all human thought and action and those processes. This I will show by examples for the three groups of adjustments named above:—

(1) When an individual explains the origin of the sea as "perspiration of the earth-body," or the likeness of a child to his deceased father as "inheritance of the soul," we have within these E-values a reduction of the Unknown to the Known, and for the process of change in system C a superseding of an unfamiliar kind of change by a familiar. The following is another instance of this: Sir J. Lubbock tells us of the Minatarris that they were greatly astonished when they saw an American gentleman absorbed in the *New York Commercial Advertiser*. As they had never heard of reading and now saw a newspaper for the first time, they considered as to what it might be. Thus the newspaper started a vital-difference in them, to annul which their C-systems passed to a series of changes. The vital-series thus formed was brief; it came to an end in one of the savages in the E-value that the newspaper was a medicinal cloth for sore eyes. Here

again, then, we have a superseding of the kinds of change as explained above.

(2) When in the course of time a strange land becomes home to the exile, when heathen peoples gradually accustom themselves to the new Christian faith brought to them by missionaries, when the discovery—at first so strange—that the sun stands still and the earth moves round it is at last accepted as natural and certain, in all such cases we have an acquisition of E-values, which depends upon the acquisition of a kind of change which originally signified a *variation* of work, and now becomes a *familiar* exercise of work. Here we have no kind of superseding, but a mere acceptance.

(3) For the Eleatics the universe, in so far as it is variable, was "illusion," while in so far as it is invariable they called it the only "real" and "exclusive Being," and this depends upon the same substitution of kinds of change as when an individual begins to regard variable matters and events, the joys and sorrows of this world, as "empty show" and "vain trifling," while a religious "ideal," a life after death, seems to him the only "true" "eternal" life. In both cases we have a substitution of interests directed towards a "permanent," which is dependent upon a substitution of kinds of change. We may refer the following instances to the same gradual formation of a constantly functioning kind of change: the longing of the Buddhists for Nirvana, Plato's *Eros* for absolute being, the longing for salvation of the earlier Christians, Spinoza's *Amor erga rem æternam et infinitam*, the naturalist's search for generic concepts and natural laws.,

Does not all evolution of science follow the scheme of these three groups of endosystematic adjustments of the system C? All these manifestations of human thought-activity, widely different as they are, all these E-values, are referred by Avenarius with the greatest ingenuity and acuteness to the vital-series and their course; in other words, he shows their dependence upon these. Nay, he even goes further and says: If the E-values ultimately depend (directly) upon the changes of system C, then we must also be able to find groups of E-values which depend upon the particular *characteristics* of the changes.

This he does in analogy with the fact of acoustics that, in talking of sound-notes, particular statements correspond to quite definite characteristics of one and the same external motor-process. Thus, *e.g.*, a statement as to its *strength* depends only upon the *amplitude* of the oscillations, a statement as to its *pitch* depends upon the *number* of

oscillations, and a statement as to its timbre depends upon the form of oscillation.

But the external motor-process (here the oscillation) is never more than the indirect condition, and only the internal motor-process, *viz.*, change-process of the system C, is the direct condition; hence Avenarius endeavours to show in the latter also the corresponding characteristics to which particular statements may be assigned, as values dependent upon them.

He distinguishes in the change-process of system C the following characteristics: (1) Form, (2) magnitude, (3) direction, (4) relevancy (significance), and (5) familiarity. To these characteristics are assigned definite groups of E-values which Avenarius calls "fundamental values". (1) To the form of the change-process are assigned all statements which are dependent upon the general sense (sense of touch, pressure, temperature), and upon the senses of hearing, smell, taste and sight; all, therefore, which Psychology has hitherto liked to call "sensational quality". Avenarius does not use this expression, as for him "sensation" itself is only an E-value, not a metaphysical something which individuals merely "have" or "possess," and which can be investigated apart from its conditions, *i.e.*, from the appropriate changes of system C.[1]

(2) Next, the E-values of intensity, as, *e.g.*, "strong," "weak," are logically assigned to the *magnitude* of the change-process.

(3) The statements "pleasure" and "pain" are made to depend upon the *direction* of the change-process; the E-value "pain" is conditioned by disturbance of the vital maintenance-maximum, and the E-value "pleasure" by reapproach to this maximum.

(4) The *relevance* of the change-process forms a further characteristic. This does not depend upon the magnitude and strength, but upon the significance which the partial system just affected has for the whole central organ. The magnitude depends upon the divergence from equilibrium; the significance, on the other hand, upon natural disposition and training. According, therefore, as the change-process affects a partial system which is or is not highly developed by its disposition and training, it will assume a different value although the magnitude may be the same. The E-values of

[1] Compare with this important question the article of Jos. Kodis, Ph.D., "Der Empfindungsbegriff auf empiriokritischer Grundlage," in *Vierteljahrsschrift f. wissenschaftliche Philosophie*, 1894, xxi., 4, p. 425 ff.

the general emotional attitude, the movement of feeling, moods, etc., are assigned to the characteristic of varying relevance as thus described.

(5) The mode in which a change-process is affected by practice and training is defined as a further characteristic,—it is called familiarity; and to this Avenarius assigns those E-values which are most influenced by habit, *i.e.*, the three great groups of statements, "real," "known," and "certain," with all their variations.

If now, instead of a vital-difference of the first order, one of a higher order introduces itself, that is, a *variation* of work, then the variation of the change-process may have special reference either to the form, or to the familiarity, or to the totality of the inner connexions, etc.

(1) In variation of the form we get on the one hand a *deviation* from the *familiar* form, on the other hand a *re-approximation* towards it. To these are assigned the groups of statements expressed in terms like "differently," "in other manner," etc., and "the same," "in like manner," etc.

(2) When the familiarity of the change-process varies, then we get the statements which depend upon varied, *i.e.*, diminished, familiarity: "less real or not real," "unknown," "uncertain," etc.

(3) When the *totality of the connexion* of the inner change-processes *varies*, these latter become more active, more differentiated, more articulated. The progressive perception of finer details (discrimination) is made dependent upon this—a most interesting inclusion of the problem of attention in the general connexion between E-values and the change-processes of system C.

Now, readers may ask to what purpose all these classifications are made. In assigning those great groups of E-values to certain conditions defined from a merely logical point of view, Avenarius does not purpose to *explain* the *content* of these E-values, but he is enabled to determine the general *form* of their dependence and to find the unit, without which a general view of the world is impossible. He paves the way—not for the psychologist in the metaphysical sense—but for the physiologist, who is now confronted with the task of setting forth what those conditions, which empiriocriticism defines in a purely logical manner, really are, of what *physiological* processes they consist. Without this methodological investigation, the physiologist is perplexed with superabundance of details, which, however exact they may be, he is not able to unify.

We must say one word more as to the way in which

Avenarius defines this dependence which I emphasised so often. If he is to give us a *general* theory, *above* all parties and including all, then here, as in the presupposition from which he starts, he must keep free from all dogmatic definitions. Hence he says: we know nothing of any mediation between "physical" and "psychical"; we accept no soul or reason, no consciousness, as a kind of *spiritus rector*—we know nothing of any *transition* from the physical to the psychical, but we also know nothing of any principle of *parallelism* between the two series of phenomena, nor of any causal connexion whatever. This all proceeds from special theory. What we know and have to determine is merely this: where "psychical values" are found these definite physiological states are also present, and differences in the physiological functions of organisms are accompanied by differences in the psychical values which are stated by the same individuals.

But to determine this it is quite enough to say: we have a relation between two terms such that *if* the one term alters, *then* the second alters also. This relation Avenarius describes, connecting it with the mathematical conception of function as a *logical functional-relation.*

By this conception of the *logical functional-relation* Avenarius is enabled to avoid completely the conception of causality, he has no further need of it; and this is the more advantageous because even causality itself conceals something dogmatic, something which is not to be found by pure description.

Here Avenarius agrees also with the well-known physicist and philosopher of Vienna, *Ernst Mach.* The latter, in his *Prinzipien der Wärmelehre*, says in an interesting chapter on Causality and Explanation (p. 433): "When we try to get rid of the traces of fetishism still adhering to the concept of cause, when we consider that as a rule no *one* cause can be assigned, but that a fact is generally determined by a whole system of conditions, then we are led to relinquish altogether the concept of cause. It is far better to regard the conceptually determining elements of a fact as *mutually dependent*, in exactly the same sense as does the mathematician, or geometrician." And again on p. 435 he says: "Only the relation of the actual to the actual has any value, and this relation is exhausted by description".

To Avenarius the important point was the methodological need, that just as we are able to think of the lower organised nervous systems as functioning without consciousness, so also we should be able to think of all human doing and

striving, all action and thought, imagination, hope and love, without immediately invoking a spirit in explanation.

Of course we cannot demand the proof that certain changes in system C of an individual really take place *without* consciousness; but then the proof that they take place *with* consciousness is also impossible. The proof, however, is quite unnecessary. All that we are concerned with is, how we are to think of these changes as happening.

If it is possible to think of the whole infinite manifold of our action and inaction as taking place without being forced to introduce a soul, a consciousness, etc., in order to explain it, then the assumption of this, as of all other faculties, motive-powers, etc., was a superfluity with which we can dispense. If we can conceive of all without any insoluble remainder or contradiction, apart from these metaphysical factors, and if in doing so we find no trace of the smallest gap and have no need to revert to them, then these factors have been a superfluous assumption which we drop, as we should also drop the atomic and æther-hypotheses if we could think of phenomena as taking place otherwise without contradiction.

But in any case for a general theory of knowledge such as Avenarius proposed, it was important under no circumstances to begin *with* a soul, *with* a consciousness, *with* a thought, *with* a will, etc. That were to begin with something unknown, and to convert an explanatory hypothesis into a dogma—briefly, *to begin at the end.*

If, then, we still desire to regard Philosophy as Science—and that is what we desire—we must begin *without* the hypothesis of soul or consciousness as the immediately certain.

But, it will be asked, is not that what materialism also does?

No! There is a difference which must not be overlooked. For the materialist in beginning without consciousness makes the denial of it a principle; he establishes a principle, and thus begins with a dogma concerning the nature of man, which is just as much unproved as if he should begin with its opposite.

This was not the procedure of Avenarius. He will at first say nothing about the nature of man and his "physical" and "psychical" values; beginning without metaphysical factors he will establish no principle, only a *method.* And that is the great and important difference: For materialism, to begin without a soul is a principle; for empiriocriticism it is a *method,* a method which is justified by the hypothetical

character of these presuppositions. Nothing is affirmed by them, and nothing denied; only it is said: We know at present nothing.

And how if in following this method consistently we finally arrive at that consciousness or soul, of which at the beginning of our investigations we were obliged to say that we know nothing? Why, *then* it must be so, then both would have become for us an "immediately certain," upon which we could take our stand in other investigations. But the *justification* of this method will be in no degree impaired by this *ultimate* result.

In the first instance then we must confine ourselves to those changes of state in the nervous central organs upon which everything is based, the changes and series of changes in system C. It is from the nature and the states of the central organ alone that the one simple principle must ultimately proceed to which we may refer all the most complicated manifestations of our being, as well as our most simple movements. And to these changes in system C are added by the individual those statements (E-values) which describe the counterpart of that essential co-ordination of which the central term is the individual himself who makes the statement.[1]

Simply to identify the doctrine with Materialism and Realism, or to regard it as a variety of these and say that Avenarius holds a "Psychology without a soul" in the same way as Fr. Alb. Lange, would be to mistake the very key-stone of his theory, that generality to which, from his purely positional standpoint, he attains by his method of pure description.

To bring this generality well into the foreground I will here notice the attitude of the *Kritik der reinen Erfahrung* to the book of books, the Bible. For the doctrine of Avenarius, *if* it is general, must cover even the views expressed in the Bible. Avenarius has explained himself on this point in the *Kr. d. r. Erf.*, vol. ii., p. 486, note 153.

He says there: "If we allow in general the unity of the plan of creation, then the pre-eminence of my uniform point of view should also be allowed, even from the standpoint of the biblical history of creation. If God made man *first* from a part of the environment (the dust of the ground) and *then* breathed into him the 'breath of life,' then the internal arrangement of the parts of the system C thus formed was determined and created before the work of art itself was set

[1] See Avenarius, *Der menschliche Weltbegriff*, p. 128.

in motion. Even from this standpoint of the biblical history of creation, we might first analyse these changes of system C which are predetermined by its arrangement as conceivable (hence *before* we had to regard them as wholly or partially realised in consequence of the inspiration of the living breath), and *then* we might connect these processes methodically with the manifestations of the 'living soul' occasioned by the inspiration."

But this is what Avenarius *did* in his general theory of knowledge. He first investigated his fellow-men themselves and their movements and sounds in a purely mechanical way, purely according to their mechanical significance, but from a methodological point of view; in this way he obtains his vital-theory of the changes in system C, and then, but not sooner, he assigns to them their so-called "psychical" values, the E-values.

"On the other hand"—Avenarius continues in the same place—"it agrees both with the uniform plan upon which system C is based and with the construction of system C, which is then independent of the possession of a consciousness, that under certain conceivable circumstances, not to be foreseen by the 'created beings,' system C is so arranged and disposed as to be capable of maintaining itself under diminution of its vital maintenance-value, whether the 'created being' is in other respects a higher or a lower one. And this means . . . it must correspond even to the standpoint of the biblical narrative of creation, that we should be able to think of all purposive practical or theoretical behaviour as following one and the same scheme. So it is, *e.g.*, when the brainless frog substitutes a more remote movement, when the one first made and most familiar to him fails of its result; or when a chained fox, after first trying in vain to reach with his fore-feet the food which lies too far off, turns round and gets it with his hind-feet; or when the child passes to continually new and more complicated movements to attain the same end; or when a speculative thinker, after first trying, but always failing, to prove the proposition 'God is the unconditioned, upon which all conditioned must be based,' finally converts the proposition into the thesis, 'The unconditioned upon which all conditioned is based, I call God'; or when the mathematician, in order to make his 'space-intuition' (or more accurately his 'estimates of mathematical spatial images') in a corresponding degree infallible, passes from the objects given by intuition to the objects given by definition, which objects the mathematician himself chooses and determines."

It is well known that all religions are anthropomorphical; but are not the natural philosophy of to-day, the psychology of to-day, and all philosophy of to-day, anthropomorphical also? We speak of the "inertia" of matter, the "resistance" of atoms, the "action" and "re-action" of forces, the "kindness" and "wisdom" of nature, of the attention which is "directed" to this or that, of the will which "leads" us and is the "impulse" of our actions—sensation, feeling, ideation, and thought—all is made anthropomorphic and is treated from an animistic point of view, even by the so-called empiricists.

The hidden ground for this is to be found in the relinquishment of the natural concept of the universe, in the division of the one universe into an inner and an outer world, in the division of the one course of events into a physical and a psychical, and in the need of connecting and uniting what has been artificially separated, the need of finding a mediator between the universe of "Being" and that of "Thought".

Avenarius, on the contrary, has succeeded in once more presenting a view of the universe as one, which corresponds to theoretical as well as to practical needs. He comprehends all our action and thought as E-values, which depend immediately upon the change-processes in system C, and mediately upon the change-processes in the component parts of the environment, of R-values.

If, *e.g.*, I have given to me for investigation the statement of an individual, "I have the perception blue," I may approach my task both from the side of *the designation* and from the side of *that which is designated*.

If I approach the task from the latter side I find nothing but R-values, first, the external change-process, the vibrations of æther, second, the inner change-process, the brain-process. This mode of regarding what takes place is called the *absolute* method. Both processes are measurable events, and have a chemical or physical significance; but they differ in that the external change-process has *only* this chemico-physical significance, while the inner change-process has this and yet another significance, the meaning, the sense or content.

In referring to the inner change-process, I have turned from the absolute point of view to another which is called the *relative*, because the relation between the individual and the objects is now discriminated. In this relative point of view I find nothing but E-values, *viz.*, in this case I do not mean by "tree" a part of my environment, nor by "blue" the vibrations of æther, nor by "perception" the brain-process, but the meaning which the word "tree," "blue,"

"perception," etc., possesses as its own characteristic meaning in contrast to other meanings. Inasmuch as the relative point of view cannot but finally become absolute, I may again regard the relation between the individual and the surroundings (in reference to E-values) in an absolute manner. The result is, generally and normally, that with the process in System C, or in a partial system, there is connected by the continuation and extension of the change-process, a secondary process in an adjacent partial system. By means of this secondary and centrally-conditioned process a sound-complex, which has become firmly associated with the first process, is either uttered by actual movement of the organs of speech or brought into recollection; thus we get, in the first case, the ectosystematic E-value, the verbal denomination, or, in the latter case, the purely endosystematic E-value.

Therefore the signs or R-values, and that which they signify—the E-values—may be regarded as coinciding. They differ only as different modes of viewing the same process; and the two modes are not, as might be supposed, distinguished by their form but by their content; for, from the absolute point of view, we consider only the parts of the environment, or the individual co-ordinated with them; from the relative point of view, we consider, first, the parts of the individual, secondly, the individual, and thirdly, his statement.

According to this view, which may be constructed directly from the theory of Avenarius, we have in the statement "I have the perception blue," a series of signs, of which I will consider at present only the signs "perception" and "blue". One of these, the sign "blue," characterises and describes the object, the counterpart in the essential co-ordination present, and the external change-process; the sign "perception" on the other hand characterises and describes not only this, but also and as well the relation to the subject, the central term of the present essential co-ordination and its inner change-process, its momentary re-action in distinction from other conceivable re-actions, *e.g.*, "ideation," "recollection," etc. So long as the individual observes and describes naïvely, he is content merely to describe the object, as in the statement "that is blue"—he does not characterise himself or his specific activity more accurately because he himself, as the relatively constant term of the essential co-ordination, is forgotten or overlooked. It is only when the individual begins to observe relatively and reflects upon himself as the subject, as well as upon the object, that he characterises his own activity, his own processes in relation and co-ordination to the external

processes, more exactly as "perception" or as "ideation," etc.

In Empiriocriticism, then, we must regard "perception" as being a sign in just the same way as "blue"—both complexes of sounds are dependent upon a secondary change-process and enable the individual to characterise in the one case the external condition, R, in the other the relation of this R to the constitution of the system at the time in question. In using these signs the individual does not intend to say what the external condition of change, or the object, is in itself (*e.g.*, it is blue in itself, *i.e.*, without being in the relation of essential co-ordination to an individual), nor does he intend by his statement to denote that he himself brings a subjective faculty (the faculty of perception) to the blue which is present outside. The external condition of change *is* not blue in itself, and the individual *has* not the perception.

The question as to the object "in-it-self" is absurd, for it means a question as to an object which is not an object for any one. "Apart from the logical contradiction of this question," says Avenarius, "it is also full of contradiction from the point of view of a general theory of knowledge. We may, indeed, think of an environment into which no human individual has as yet entered; but we cannot think of any part of this environment, nor any part of any environment at all, which is not also a counterpart, or what is the same, we cannot think ourselves (as central part) away. What we can do in this respect is either to *disregard* ourselves, or to think that at one time no living being was to be found in the whole world. But in the first case, when we ignore ourselves, we merely play the part of the unnoticed spectator; or, if we like, of the spectator who is so absorbed in looking that he forgets himself in the spectacle. In the second case, where we assume that at some time there was no living being in the world, this world still remains for the questioner the totality of his counterparts — he merely admits no *other* central parts (himself, as we have said, he cannot think away) to whom *his* counterparts might also be counterparts. But for the parts of the environment to be counterparts it is sufficient that he, the questioner, continues to be the central part; and that he continues to be, so long as he still confronts the universe with questions."

But the other suggestion, that the individual has the *perception*, is also absurd; it means that he *has* the perception *in himself*. The individual has indeed his brain in himself, and in the brain the cortical layers of the cerebrum following

the outer layer of the neuroglia, and in these the separate cortical cells, and in these the cell-nuclei, and so on. All physiological processes and states of the organs and their parts are in him; but never a perception, sensation, idea, etc.

It is just the same with a thought and with thinking. Avenarius says expressly: "Analysis of that which is called 'I' tells us indeed that it has a brain and thoughts, but it never tells us that *the brain has the thoughts*. A thought is indeed a thought of my Ego; but it is not therefore a thought of my brain, any more than my brain is the brain of my thought. That is to say: The brain is not the dwelling-place, seat, producer; it is not the instrument or organ, not the supporter or substratum, etc., of thought. Thought is not the inhabitant or commander, not the other half or side, etc., but neither is it a product; it is not even a physiological function, or merely some state of the brain."

All functions of the brain are qualitatively the same, even as change-processes; they vary only according to form, magnitude, direction, connexions, etc. "Thought" is only the designation and characterisation for the starting of a change-process, which is not peripherally but centrally conditioned, and which is therefore not a primary occurrence, but a reproduction; and "thinking" is only the designation of the process of combining thoughts in series.

But still the expression, "We have in us perception, thinking, etc.," may have a true meaning. By the proposition "London is on the Thames" I do not mean to say that the *sound-complex* "London" is on the Thames, but "that which is designated as London"; and in the same way by the proposition "We have in us a thought" I may mean "We have in us what is designated and characterised in reference to its specific conditions as 'thought'". But that is the change-process specifically determinable by its constitution and characteristics, and this we indubitably have in us. So long as I mean to say only this and nothing else I am correct.

But that is just what the prevalent Psychology and Philosophy does not mean to say; it is rather of opinion that in addition to the physiological process we have something else in us, a metaphysico-animistic something, by means of which the physical first becomes, as it is called, "psychical"; *e.g.*, a perception *by means of* which we project our impressions, a thinking *by means of* which we first attain to thoughts, etc. Knowing how easily our language with its constant anthropomorphism misleads us into errors, Avenarius urges that we should never say that perception, sensation, thought, consciousness, etc., are in us, but merely

that change-processes are in the organism, more specifically in the nervous system, in the central organ, in system C, etc.

On the other hand, Avenarius does not identify change-processes with "perception," "thought," as the materialist does, when he follows the well-known saying of Vogt that thoughts are a secretion of the brain, just as urine is of the kidneys. When Avenarius analyses from the absolute point of view that which is designated he is dealing only with the external and internal change-processes, with their conditions; when he analyses the designation from a relative point of view he treats of the significance, the meaning, the content, which we connect with a word in its dependence upon certain characteristics of the change-process. Thus in the second volume of the *Kritik* he arrives at the result that by the sign "perception" we mean at bottom only the same as by the sign "thing," and that by "idea" we mean the same as by the sign "thought"; the distinction in each case is only that by "thing" and "thought" we characterise the way in which *just an R-value* exists for us, while on the other hand by "perception," "idea," we characterise the way in which an R-value exists *just for us.* In the first case the E-value is a "sign" for the object, in the second a "sign" for the relation of that object to the subject of the same essential-co-ordination.

Just as the sound-complex "London" is not what is designated, but is used for what is designated, so also the E-value "perception" or "red," etc., is not a change-process of system C and not a change-process in the surrounding. Indeed we can never say more than "Every E-value is characterised as that which, at the time of its existence for the individual, attains to being named".

It is conceivable that organisms of the lowest kind have originally only the primary change-processes, which disappear quickly and completely, without leaving any residual effect. For such beings without any residual effects of change, the environment would be always strange, however often it might be presented to them as stimulus. Each stimulus and each complex of stimuli would be new every time; they would have no sign by which they might be distinguished and remembered. Only when the residual effects of change have been developed and elaborated, and the secondary processes have arisen through extension to adjacent cells and subordinate organs of the central organ, do we get the important circular process, from any point within which the whole complex of changes may be set in motion. The possibility of changes which are centrally con-

ditioned comes first with the residual effects of change and the secondary processes. There may now be associated with the peripherally conditioned process, one which is centrally conditioned, the repetition of the first eliciting repetition of the second.

As we say that a sound has content and significance when we *think* something in connexion with the sound, so also the primary change-process receives meaning and content for an individual from the response of a whole series of secondary processes, which associate themselves to the primary, and this association takes place in a definite order. Thus the E-value is already forthcoming before the sound-complex is there. In the formation of the sound-complex the same process fulfils itself once more; sound-complexes themselves are at bottom only marks for our attention and signs for a certain order of characteristics. In this pure description we have no need of the "projection theory," etc. Avenarius never says: "The content of my perception is there in space, where I see it, 100 paces in front of me". How indeed can one say "I see my perception"? The content of a statement, *e.g.*, "red," is never in space; what is in space is the R-value, which is characterised for the individual by the E-value "red". The individual characterises the R-value always by some one aspect (whenever it actually conditions change in his system C), either by "red," or "hard," or "real," or "thing," etc. For all these characterisations we need no "projection," because nothing at all is projected. The brain-process remains the brain-process, and the external condition of change remains the condition of change; no projection is connected with the description and naming of the two and their relation.

Concerning the last writing of Avenarius, *Der menschliche Weltbegriff* (Lpz., 1891), I may be allowed to quote a few words from an essay published by a pupil of Avenarius, Mrs. D. Josepha Kodis, Ph.D., in the *Psychological Review*, vol. iii., 6, p. 609.

"An especially new point in this paper is the theory of 'Introjection,' by which Avenarius explains the growth and formation of the theory that a fundamental difference exists between the 'inner' and 'outer' experiences. Avenarius does not find in these two kinds of experience any 'incomparability' or any 'fundamental dualism'. The idea of their essential difference has been derived, according to his opinion, from a kind of false materialism, which believed in the enclosure of the soul in the body or in a part of it,

and, later, in the enclosure of the faculties of the soul in the soul's substance. From this belief sprang the notion that the soul was something enclosed from the 'outer world,' into which enclosure every impression from without could come only through a putting-in, or 'introjection'. The whole modern psychology, psycho-physics and most of philosophical theories contain such opinions, and therefore serve to strengthen the artificial wall between the inner and outer experiences which makes the sciences of the 'inner world' always more inaccessible to exact methods of investigation, and consequently more sterile."

The Philosophy of Avenarius attracts more and more attention from thinkers who are striving for new views, and it gains ground steadily. England still holds aloof from it, and this is to some extent strange, since it is in England that we find the origin of the Association Psychology and of a Common-Sense Philosophy; it is true that taken as wholes neither of these has anything to do with Empiriocriticism, but in detail they would find many of their propositions in Empiriocriticism. It must not indeed be concealed that the difficulties of penetrating into Avenarius' works are very serious, chiefly because of the entirely new terminology introduced by him.

To those who would make themselves acquainted with Empiriocriticism, my *Einführung in die Kritik der reinen Erfahrung* may perhaps be of use. For other literature about Avenarius I may draw attention to my "Nachruf" in the *Vierteljahrsschrift für wissenschaftliche Philosophie*, Jahrg. xx. Heft 4, p. 386 *seq.* Quite recently there have been added to these studies two articles by W. Wundt: "Ueber naiven und kritischen Realismus," II., "Der Empiriokriticismus" (*Philosophische Studien*, vol. xiii., pp. 1-105 and pp. 323-433). The answer to these will soon appear in the *Vierteljahrsschrift für wissenschaftliche Philosophie.*

To those philosophical inquirers of to-day who wish to attain new views, to come forth from the treadmill of former ways of thought, to be freed from the work of the Danaides, the eternal carrying of water in a sieve, to these Empiriocriticism offers a most encouraging inducement, even if they do not agree (or do not yet agree) with the particular details of Empiriocriticism, or if they should at first draw back alarmed by the new, unfamiliar and difficult terminology. With reference to this point I may close this sketch with the consoling words of *Ernst Mach*:[1] "It is from the new, the unfamiliar, the uncomprehended, that all stimulus to inquiry proceeds".

[1] E. Mach, *Die Prinzipien der Wärmelehre*, p. 367. Leipzig, 1896.

II.—THE GOAL OF KNOWLEDGE.[1]

By J. H. Muirhead.

I propose to discuss three questions in this paper, the first two very shortly, the third at greater length:—First, under what form ought we to conceive of the goal or ideal of knowledge? secondly, how does this ideal operate in actual experience? and thirdly, what is its relation to ultimate reality?

I.

What in general outline is the nature of the ideal which we set before ourselves in knowledge? In attempting an answer to this question I may perhaps be allowed to refer to the contents of the paper I read before this Society last year, which was published in Mind for October, 1896. I there tried to show that the beginnings of knowledge must be looked for in a concept or form of apprehension which, like the undifferentiated continuum of the psychologist, may be said to contain in itself the possibility of all differences, but to hold them as yet in solution, awaiting the distinguishing, crystallising action of the logical judgment to give them at once a separate place and coherent connexion in the whole. Following this suggestion, we may describe the end of knowledge as a concept or mode of apprehending the world in which, as in the developed organism, the processes of differentiation and integration have been brought to completion in a fully articulated system of coherent judgments.

This, if you like, is a metaphor, but it points to the two most important characteristics which logic must recognise as belonging to fully developed knowledge—all-inclusiveness and self-consistency. We seek in the first place to know all that is to be known about a thing—or about the world.

[1] Read before the Aristotelian Society, 14th June.

The original subject-concept becomes differentiated in a number of predicate-concepts. Or, to express the same thing in terms of judgment, the judgment which predicates mere existence of a something to be known is extended into a system of judgments which tell us what is to be known about it. But secondly we seek to understand what we have learned, to connect one predicate-concept with another. Ordinary experience brings with it the conviction not only of its own poverty as compared with the infinite riches of the world, but of its own inward discordancy as compared with a vision of harmony and ultimate transparency—a transparency which for logic must consist in the consistency and coherence of the judgments which we are forced to make upon reality as it comes before us in ordinary sense-perception and in the processes of scientific investigation. Knowledge may thus be said to aim in the first place at its own expansion. It seeks to embrace reality in all its parts or details. It aims in the second place at explanation. It seeks to understand the relation of the parts to one another, and to the whole to which they belong. Its ideal may thus be schematised as a whole of clear and distinct parts related to one another in such a way that the mind can pass from any one along the lines of judgment and inference to any other, with the result that the whole is seen to be reflected into every part, and every part to contain the whole.

Whether the world can ever thus be reduced to complete transparency is a question with which we need not trouble ourselves at present; it is sufficient to note not only that all science proceeds upon the assumption that it can, but that those sciences which are most advanced, and which as "deductive" are commonly taken as the types of completeness and certainty, really do to a certain extent exhibit these characteristics. Thus geometry aims in the first place at exhausting and in the second place at proving the interconnexion of the properties of the figures with which it deals, and it would not be difficult to throw the knowledge we derive from it as to any particular figure, *e.g.*, the triangle, into a form which would exhibit the properties of the figure as such and of each of the separate species of it (if it has species) as necessary deductions from its own nature and as thus inherently related to one another through their common relation to the whole whose properties they are.

II.

Without stopping to dwell upon this,[1] we may go on to notice in the second place the mode in which the ideal under these two aspects of all-embraciveness and complete consistency operates in actual experience.

The question deserves more careful consideration than I can here afford to give it, but I must not pass it wholly over. The answer in general is that it operates like any other ideal. The dynamical efficiency of an idea, that which transforms it from a mere idea in the mind into an end or an ideal, is the felt discord between it and the actually existing fact. In his little book on the Psychology of the Moral Self Mr. Bosanquet has some observations on the question how our ideas can include not only facts but purposes, which may assist us here. He points out that they can become purposes by being recognised as only conditionally true. A purpose is always relative to actual facts; an ideal is always based upon some reality. It stands to that reality as an appercipient group (*e.g.*, the group corresponding to a penknife) does to the actual presentation (*e.g.*, the penknife in my desk). The ideal is only realised when the actual thing comes up to the idea of it. My penknife is rather a broken-down affair; until I have it cleaned up and sharpened my idea is only conditionally true. Facing the penknife as it is, there is the idea of what the penknife ought to be ready when the contrast becomes too painful to rise into an actual purpose to take it to the cutler or replace it with a new one. Before turning to the question before us we may notice that while the above mode of expression is undoubtedly the right one from the point of view of psychology, from the point of view of teleology we may prefer to reverse it. Here we have to recognise that the ideal is the truth of the actual. The source of dissatisfaction, and therefore of action, is that the actual is not true. It fails of truth and reality because it falls short of the features that the persistent idea or appercipient system contains. The reality of the knife is its suitability to its purpose; so far as it is unsuitable it fails to be a knife. In taking it to the cutler's I restore this reality to it.

Applying this to the ideal of knowledge, the actual fact here, of course, is a concept or group of concepts; the persistent idea is the idea of these concepts rendered internally harmonious in the manner we have described. This ideal

[1] For fuller details see the excellent sections in Hobhouse's *Theory of Knowledge*, pt. iii., c. 6, *init.*

asserts itself against the actual, forcing us to realise that it is only conditionally true, that it can only become so as we bring our actual concepts into harmony with it; or (as we have preferred to express it) that our actual concepts are not really true and real at all and can only become so by having their nature so altered as to conform to the ideal. This alteration, we have seen, takes place in two directions—that of extension and that of coherence; and this twofold character is emphasised in the history of mind by the alternation of periods of specialisation in which facts are accumulated with periods of speculation in which they are harmonised and explained.

This tendency of these two sides to fall apart in actual life has led some writers to represent them as not merely different but actually opposed to each other and requiring to be harmonised by a kind of compromise.[1] But these are not two different ideals but different sides, of one and the same. In any genuine piece of scientific research the accumulation of facts is always controlled by unifying intelligence. In the pursuit of knowledge the human mind cannot really go on adding fact to fact without some effort after inner organisation, any more than in the pursuit of happiness it can go out to new objects of interest without some attempt at co-ordinating them with the old. On the other hand, just as the instability of a life which is founded on too narrow a principle, *e.g.*, money-getting, is the source of moral progress in individuals and nations forcing them in a crisis to recognise that there is more in life than their philosophy has dreamed of, so it is the continual development of contradictions within the unity which our thought has already established among the facts that drives it on to a more comprehensive view, and, as Bradley says, compels it to take the road of indefinite expansion. All this will be clearer presently when we go on to discuss the relation of this formal account of the goal of knowledge to the concrete reality. Meantime an example taken almost at random may assist us to understand how fact and theory act and react on each other in these respects.

When Prof. Seeley in his posthumous work on the History of British Diplomacy proceeds to examine the character of the fact we know as the English Revolution he finds the usual account of it which attributes an important and all-pervasive change to the insignificant cause

[1] See James in his recently published vol., *The Will to Believe*, Essay on the "Sentiment of Rationality," p. 65 foll.

of the private character of James II. and his personal friendship with Louis XIV. altogether inadequate. To explain this apparent contradiction he asks us to go beyond the limits of the fact as an event in English History, and to connect it with the larger whole of which it is only a part, *viz.*, the European movement of the time in which the forces of the Counter-Reformation are headed by Louis XIV., while Protestantism is represented by William of Orange. From this point of view the English Revolution appears no longer as a constitutional change taking place in a corner of Europe caused by a petty quarrel between a Stuart and his Parliament, but as an important episode in a great drama of which the chief actors are the greatest sovereign and the greatest politician and patriot of his time. By the explanation in which Seeley asks us to follow him, our knowledge is not only made more coherent; in being made more coherent it has been made fuller. The fact reflects more of the history of the world and has thus been expanded and deepened. On the other hand every new fact we discover about a thing is a step in the direction of its explanation, for this fact on closer inspection is seen to contain a relation to other things, and thus to force us beyond the limits of the part to the whole to which it belongs and which alone can make it intelligible to us. In this way a new stage in our investigation is reached, when we notice that the English Revolution is not merely a political and religious movement: it coincides with the Union of England and Scotland, the foundation of the Bank of England and the institution of the National Debt. These "facts" at once suggest a connexion with the industrial condition of the world at the time, and thus lead the way to a more comprehensive theory still of the phenomenon to which they belong as adjectives.

III.

The goal of knowledge, then, is a system of judgments or concepts, and connected in such a manner as enables us to go from any one to any other in virtue of their perceived coherence in the whole. But such a system if we could suppose it embodied in an encyclopædic treatise would be of no interest to us except in so far as it stands related to the everyday world of our experience. We are interested, if we might say so, not in science, but in the things with which science deals; thought and knowledge, as Mill reminds us, proceed "from particulars to particulars". Our aim is to

realise the *thing*, and the question occurs whether such a system of concepts as I have described, if it were worked out to completion, would put us in possession of the actual world as it is—concrete, real and individual.

The view that underlies much of the popular logic and is tacitly admitted in some of the older accounts of the work of thought and knowledge tends to separate between the ideal of science and the concrete individual thing. According to this view thought starts from the concrete reality. Its function is to "abstract" from it, and in doing so to turn its back upon the thing itself. Science and philosophy, it is implied, are well enough, but people who would keep a level head on their shoulders must ever return from these abstractions to the concrete data of sense as the only test of reality. Similarly from the side of individuality. The individual thing or event is supposed to be given within the four corners of its existence as a particular here and now. Thought has nothing to do with its internal constitution as a particular thing; its function, on the contrary, is to go beyond it and connect it from the outside with other things that resemble it in some isolated respect—in other words, to generalise it. In this process the thing itself is supposed to remain as it was before; it is merely set in a new group and viewed in connexion with other things. By means of such groupings intellectual processes are simplified, but no real change has taken place in our idea of the thing itself, or if there has, it is rather for the worse. Its individuality instead of being developed tends to be obscured: to regain it we have to turn our back again on the abstractions of thought, *i.e.*, on the arbitrary relations we have established between it and other things, and view it in the "solid singleness" of its concrete existence.

It is hardly necessary at this time of day to say much to discredit this view of the function of thought and the relation of its ideal to reality. Most philosophers now admit within limits that thought has a constitutive as well as a merely formal function with regard to reality. It is admitted, for instance, that in going beyond the thing or the fact as we are forced to do in endeavouring to understand it we are not leaving its individuality behind but carrying it along with us and raising it at each stage of our explanation to a higher power.[1] To revert to the above illustration: to bury ourselves in Prof. Seeley's theories is not to allow the

[1] Yet the view in question dies hard. See James, *loc. cit.* It is the exact parallel in logic to the theory of some people in practice that education and culture make against individuality of character.

English Revolution as a concrete event to fade away in generality, but to give it for the first time the clear outlines of a distinct and unique event. Similarly from the side of reality. We start, of course, from an existing thing or event. But its existence in time and space is only an element in its reality. Apart from its what and its why, the hold, so to speak, which we have upon its reality is but a feeble one. In developing our thoughts about it we are not abstracting from its reality or leaving anything behind which is worth having. Instead of being cancelled in the intellectual process, all that it had of reality at the outset is taken up and developed into a higher form. For reality means significance, and the significance of a thing or event is only known when the latter has become to us what his crystal is to the magician, "the ball that images the world," and we see reflected in it as in a transparent focus the characters of the whole to which it belongs.

But a further question rises when we ask not whether thought has any constitutive function in building up the world of knowledge but what is the relation of the ideal of knowledge itself to ultimate reality. Can the world we know ever really be the world as it is in itself? We have all been made familiar in these days with the doctrine of degrees of reality, and we have, I suppose, all accepted it so far as to admit that experience stands at different levels according to the degree in which it corresponds to the ideal above described of an experience which is all-embracive and completely harmonious. But let us now suppose that this ideal is completely realised so far as knowledge is concerned, in a system of concepts which exhausts the contents of the world and is internally harmonious. Would such a system express reality as it is? would it be the absolute? or does it necessarily fail to express the truth, and must it be at last condemned as mere appearance? The conclusions of recent English philosophy, as is well known, favour the latter alternative, and require to be squarely faced by any one who like the present writer holds an opposite view.

The question itself, it will be admitted, is of sufficient importance to attract more attention than it has hitherto received[1] from philosophers. It is not only the preconceptions of ordinary common sense, but the central doctrine of the current form of speculative idealism that is called in question.

[1] Since this was written Prof. Seth's book, *Man's Place in the Cosmos*, has appeared. It has enabled me to shorten my argument.

Common-sense people never doubt not only that the more they know of the world the firmer the hold they obtain of reality, but that if they knew all that it is possible to know they would be as God and *know* reality as it is. Or, to put it in the form suggested by our former discussion, they never doubt that reality is somehow given in their concept of the world, and that all they have to do is to fill that out and bring it into harmony with itself. Idealist philosophy moreover has until recently acquiesced in this view and in its doctrine of the Absolute done little more than translate it into the language of the Schools. It is sufficiently disquieting to be asked to change all this, and before giving in our adhesion to the newer theory, we may be excused for desiring to examine it a little more closely than has hitherto, I think, been done from the point of view of the presuppositions of Idealism itself.

It is hardly necessary before this Society to state the grounds upon which the incompatibility of the form of knowledge with ultimate reality is based by the writers who maintain it. I shall condense them into the two arguments that have commended themselves to two distinguished writers. In the first place it is maintained that knowledge is not the only form of reality. Besides knowledge there is feeling, and perhaps volition. As Bradley puts it: "Let us imagine a harmonious system of ideal content united by relations and reflecting itself in self-conscious harmony. This is to be reality, all reality, and there is nothing outside it. The delights and pains of the flesh, the agonies and raptures of the soul—these are fragmentary meteors fallen from thought's harmonious system. But these burning experiences—how in any sense can they be mere pieces of thought's heaven? For if the fall is real there is a world outside thought's region and if the fall is apparent then human error itself is not included there. Heaven, in brief, must either not be heaven or else not all reality."[1] The conclusion is, knowledge can never be a complete expression of the whole of reality. But secondly, the ideal of knowledge makes a demand which, if it were satisfied, would be the destruction of one side or the other of the antithesis upon which knowledge itself depends. "If thought were successful it would have a predicate consistent in itself and agreeing entirely with the subject. But, on the other hand, the predicate must be always ideal. It

[1] *Appearance and Reality*, 2nd ed., p. 170 foll.; cp. McTaggart's *Studies in Hegelian Dialectic*, p. 214 foll.

must, that is, be a 'what' not in unity with its own 'that,' and therefore, in and by itself, devoid of existence." If, on the other hand, it were to include existence, it would not be thought any longer. "It would have passed into another and a higher reality."[1] To the conclusion therefore that knowledge cannot be the full expression of reality, we must add that it cannot even form an element in the ultimate reality.

With regard to these arguments the first thing to be noticed is that they do not go on all fours. The first is directed against the position that knowledge is all reality, the second against the position that knowledge is an element in reality—the first is concerned with what we might call the ideal of consciousness, only the second with the ideal of knowledge as such.

It is admitted on all hands that the ultimate form of experience cannot be exhaustively described in terms of the goal of the scientific or speculative reason. The history of Idealist thought may indeed be said to consist of the successive steps by which philosophy has arrived at the recognition of this truth. Starting from the acknowledgment that reality is to be sought for in the field of Ideas, it is possible to describe these ideas (perhaps Plato sometimes did so) as intelligible essences unrelated to the concrete life of ordinary feeling and action. Going on from this it is a second step (which it is Aristotle's merit to have made) to have shown that the supreme end of the soul as compared with the end or ideal of the speculative intelligence is the rational or intelligent *life;* that the truth for which our souls long is not an abstract system of ideas, but a truth which shall harmonise and enrich our lives—a truth that shall make us free. Finally it is realised (and this I suppose was the characteristic contribution of Christian thought) that the Ideas which constitute reality have not only to be grasped in thought and realised in life; they have to be loved and adored as the supreme objects of feeling. This is the truth which I take it Hegel meant to express, with whatever success,[2] in his well-known doctrine that the highest expression of spirit is a form of consciousness, which, under whatever name (he called it Philosophy), must be conceived of as including art, morality and religion. But to admit that the highest form of experience must be one in which somehow these three

[1] Bradley, p. 162 foll.; cp. McTaggart, p. 208 foll.

[2] Jowett thought he failed: "The problem of *ἀλήθεια πρακτική*, truth idealised and set in action, he does not seem to me to have solved; the Gospel of St. John does" (*Life and Letters*, vol. i., p. 92).

elements of thought, volition, and feeling must be included is one thing, to maintain that it must be one in which the peculiar nature of any one of them must be cancelled is quite another. What we know of them in ordinary conscious experience rather supports the opposite conclusion, for as it is admitted that knowledge, apart from feeling and volition, is a nonentity, it is equally clear that feeling and volition, apart from the experience of a soul which is cognitive in the sense in which we commonly understand cognition, are inconceivable.

The second argument, however, deals directly with the question on hand and is a more serious matter. It takes two forms which we may state briefly as follows: The object of knowledge presents itself to us with the two characteristics of infinitude and immediacy. Knowledge seeks to exhaust this infinitude in a series of finite predicates and at the same time to substitute for the immediacy of the percept the mediated necessity of a logical system. Its ideal is thus the unity of thought with reality, of subject with reality. Now let us suppose this ideal realised, what has happened? From the side of the *thing* we may be said to have completely idealised our object, but in doing so we have destroyed it, for it has in the process passed over to the side of idea. Similarly from the side of *knowledge* and *idea*: we have established the unity of subject with object, but it is no longer the unity of knowledge, for this demands the antithesis of thought and thing, and this antithesis has been destroyed. To this argument based upon the contradiction involved in the conception of the ideal of knowledge as the unity of subject and object is added another based upon the conception of the ideal as the complete individualisation of the object. Knowledge aims at the complete differentiation of the subject, but as the instrument with which it works is always the abstract predicate, it necessarily fails to do justice to the contents which it endeavours to express, and the true individuality of the object falls outside the system of our predicates. As Mr. McTaggart puts it: "The fact that the object is more or less independent as against us—and without some independence knowledge would be impossible . . . —renders it certain that every object has an individual unity to some extent. Now knowledge fails to give this unity its rights. The meaning of the object is found in its This, and its This is, to knowledge, something alien. Knowledge sees it to be, in a sense, the centre of the object, but only a dead centre, a mere residuum produced by abstracting all possible predicates, not a living and unifying centre, such as we know

that the synthetic unity of apperception is to our own lives which we have the advantage of seeing from inside. And since it thus views it from a standpoint which is merely external, knowledge can never represent the object so faithfully as to attain its own ideal." [1]

Let us be quite clear as to what it is in the above arguments that concerns us. We are not concerned with the question as to whether the ideal of complete knowledge is for us a possibility. To know completely the flower in the crannied wall, we must know the whole world besides, and this we may admit is and must remain for us an ideal. The question is whether the ideal is itself "ruined" by an inner contradiction. The above arguments are put forward to prove that it is by showing that both from the side of unity and diversity in realising its ideal knowledge must commit suicide.

Now we may at once admit that this conclusion follows from the assumptions as to the nature of the unity and the diversity demanded by the ideal of knowledge on which both these arguments are based. Thus if, as is assumed in the former argument, the unity at which knowledge aims is one which is incompatible with the difference of subject and object, it follows of course that the attainment of the unity would involve the destruction of difference, and with it the ruin of knowledge as such. Similarly if we begin by assuming with Mr. McTaggart that the individuality of which we are in search is contained in something other than thought, it must of course remain so to the end so far as thought and knowledge are concerned. The ideal of thought is to think everything, but if everything is precluded by its nature as thing from entering into thought then—well then by its nature it must be left out. But there is surely the prior question—which on so important a matter might be worth asking,—whether the unity and the differentiation which form the twofold aspect of the ideal are really of the nature supposed.

With regard to the former of these points it is admitted, of course, that all knowledge is a process of unification: all judgment is synthetic. But it is equally of the essence of knowledge to be the unification of differences: all judgment *qua* judgment is analytic. Finally, in being the one it is also the other. We are not to say judgment is synthetic *and* analytic; in being synthetic it is analytic. We cannot have the unity except at the price of the difference and *vice versâ*. And

[1] *Studies in Hegelian Dialectic*, § 198.

what holds of judgment in general holds in particular of the primary judgment which separates between subject and object and gives knowledge the form it wears to the ordinary consciousness of the attempt to comprehend by means of finite predicates the nature of a being which is essentially infinite and incomprehensible. It is impossible to suppose that Mr. Bradley intends to deny this, which one would have thought is an axiom of modern idealism. Yet, in arguing that the form of knowledge is incompatible with ultimate reality, he seems to proceed throughout upon the assumption that the unity which the ideal of knowledge requires is one which is incompatible with the difference of subject and object. One consequence of this is that he tends to represent the differences as something comparatively accidental and irrelevant. They are a "disease" which breaks out in the object of knowledge, and has, as he tells us, to be healed homœopathically.[1] Or again they are a "dissection";[2] they give us the anatomy of the thing but never the living thing itself. The *life* of the object falls on the side of the unity. In all this we are tempted to ask whether Mr. Bradley has not been carried away by his own metaphor, and whether if we changed the metaphor we might not arrive at a precisely opposite conclusion. Let the differences be the living functions of the organism instead of dead sections of it, and what becomes of the unity? In this case the "life" falls on the side of the predicates and leaves us only the stillness of death as the unity out of which they come and to which they return. This, indeed, as we shall see, is very much the conclusion at which Mr. McTaggart, approaching the question from the side of the differences, actually arrives when he finds in the "this" of the thing a mere dead centre which is left on our hands when we abstract from the predicates which give life and individuality to the object as an element in our knowledge.

I do not propose to dwell further on Mr. Bradley's argument, but refer the reader to Prof. Seth's treatment of it (*op. cit.*), with which I find myself in substantial agreement. I quote his conclusion as my own: "Dissatisfaction with the form of knowledge as such seems to me I must confess chimerical; and I am sure that the repudiation of it leads not to any higher unity but to the pit of undifferentiated substance out of which Hegel dug philosophy". It will be more profitable if, approaching the question from the side of differentiation, I try to show from a point of view

[1] *Studies in Hegelian Dialectic*, § 198, p. 166. [2] *Ibid.*, p. 167.

which Prof. Seth would perhaps not accept that the argument of which I have taken Mr. McTaggart as the representative is open to a similar criticism.

As Bradley assumes that the unity of which knowledge is in search is incompatible with its differences, Mr. McTaggart conversely assumes that the differences by which we seek to know the thing are incompatible with its unity. To know the thing we must know it in its abstract unity, the thisness which excludes its being this or that. But is not this simply to turn one's back on the most important lesson that philosophy since Kant has been endeavouring to teach, the distinction between the abstract and the concrete particular? This distinction is too familiar to dwell upon. For the present argument it means that "this" may be taken in a more abstract or in a more concrete sense, and it depends upon the sense in which we take it whether we shall admit that the individuality of the thing consists in its thisness or not. I may perhaps make this clear if I ask you to note that there seem to be three senses in which we use the term. We may mean in the first place by the "this" of a thing its bare existence. The thing we call a "this" is undoubtedly taken to exist—"referred to reality". The logical text-books would tell us that the term "this" *denotes* something, although at this early stage of its meaning they might hesitate to say what it *connotes*. It would be more in consonance with the foregoing analysis to say that mere existence for thought (mere denotation if you like) is at this stage the connotation of the term. At a further stage there is less difficulty. "This" means what is here and now. The thing is referred to a place of its own in the worlds of space and time. Besides its denotation, the text-books would say, it has the connotation of "being here and now". But, further, it may be taken to represent the thing in its complete individuality as unmistakably "this" and nothing else—completely differentiated from everything else by the peculiar relations in which it stands to them (and at the same time as we have seen rendered completely coherent and self-consistent). We may notice further that these three meanings though separable are not really separate or discontinuous with one another. They represent three stages in the development of the original concept. From the undifferentiated unity with which it starts, the mind moves onwards to its first most abstract judgment of reality in becoming conscious of a Something—a mere ἔστιν ὅτι—thence it is carried to its determination under the forms of space and time as a here and now, and

from this again to this determinate attribute or essence its τὸ τί ἦν εἶναι (what it was all along). From this point of view the objectivity or being-in-the-world of a thing is not something alien to its determination by mind — an unresolvable surd—but merely the first of a long series of thought determinations that become through the processes of judgment and inference ever more adequate to express the significance of the point in reality with which we are concerned. Moreover it is not something which is left behind, but it is a predicate which is taken up as thought advances and absorbed in the concrete reality the thing acquires as it becomes more completely known, just as the substance of a seed or embryo is not something that is left behind, but is taken up into the life of the plant or the animal organism.

We only need to apply these considerations to the argument quoted above to perceive that it proceeds upon a quite opposite assumption, the assumption, namely, that the starting-point of knowledge is an immediated diversity between subject and object. Facing the mind as the τόπος εἰδῶν is the object as the seat of reality, and knowledge is conceived of as the process whereby a reality having concreteness and individuality in itself is decked with a spurious individuality by means of the abstract concepts which are the predicates of our judgments about it. I do not deny that there is much in the prevailing mode of regarding the problem of the relation of thought to reality which seems to justify such a view. Even the more careful idealist writers are not free from the tendency to lay undue stress upon the logical judgment as the type of all thought, with the result that a division is made at the outset between knowledge and reality, and the mind is conceived of as "in contact with reality" in perception, and having for its problem to bridge the gulf which separates it from the world of existence. But this I believe to be a fundamentally misleading point of view, and it is much more in harmony with the leading lessons of modern philosophy to conceive of the distinction between subject and object, the given and the thought to which it is a given, as itself a moment in the development of primitive experience. If this is so, we may admit that the "this," if we take it in the first of the above senses, falls far short of the mind's ideal, but we must at the same time deny that it is something alien to thought as such. Similarly we may admit that it is to thought a dead centre, but it is dead not because it is a residuum obtained by abstracting all possible predicates, but because it is itself the

first and most abstract of all the predicates by means of which the mind seeks to realise its ideal.

The attempt to mark off a region of thinghood in the object which is unmediated by the subject naturally leads to the attempt to mark off an element of selfhood in the subject which is unmediated by the object, and we need not be surprised that Mr. McTaggart seeks to illustrate his abstract thing by the conception of an abstract ego. Facing the thing as the unity of its attitudes we have the subject as the unity of its perceptions. So far we are on well-known ground. Kant taught as much. But on Kant's view object and subject were both ultimately things in themselves and as such unknowable. This new Kantianism makes a distinction between them. The object as such is withdrawn from immediate presentation: it is only known from without, but the subject as known from within enters apparently immediately into consciousness. One can hardly believe that Mr. McTaggart is really serious with this distinction, or means to assert that there is any knowledge of the self accessible to us which is not a knowledge of the world,—any opaqueness in our knowledge of the world which is not reflected in our knowledge of the self. Yet abstractions die hard, and it may be worth while to restate the view upon this head, on which we are all, I take it, agreed, "except when we are supporting a thesis".

We are all, I suppose, agreed as psychologists that the attempt to discover in the changing scene of feelings and cognitions a permanent identical content corresponding to the self is waste of time. The consequence of this admission for philosophy is not that there is no self (any more than the consequence of the astronomer's discovery that God was not visible through his telescope was that there was no God) but that it is to be looked for in another way. It is to be sought for at the end not at the beginning of our mental life, in the extent and organisation of the contents of the mind, not in some needle's point of abstract consciousness. To know ourselves, therefore, is not to have access to some inner shrine of individual life but to understand the mode in which those contents are united to one another. Our guarantee for the unity of our own life is not any immediate consciousness of it but simply the fact that organised knowledge exists. We may say, if we like, that the unity of the self is an idea or hypothesis by means of which we render the fact of knowledge intelligible to ourselves. But it would be truer to say that it represents one of the elements which

the analysis of developed knowledge yields—the other element being the diversity of the content.

Now if this is so wherein does our knowledge of the unity of the self differ from our knowledge of the unity of the thing? Here also psychology admits that there is no content over and above the attributes of the thing corresponding to its unity. But this does not mean that there is *no* unity. It means that the unity is to be looked for in the special form of relation which the attributes bear to one another—that being most of a unity which is most organised and coherent. We may say if we like that this unity is a hypothesis we make in order to make the "thing" intelligible to ourselves, but again it is simpler to take it as one element or aspect which the nature of reality forces us to acknowledge in everything we know, the other being the differences or relations in which the unity reveals itself.

A difficulty might indeed be raised in connexion with other selves. Is it meant that we have no more immediate knowledge of our own than of other minds? This, it may be admitted, is contrary to prevailing prejudices. For it is commonly assumed that we start from an immediately given self and arrive later by a process of analogical inference at a consciousness of the existence of other minds. Yet one would have thought that recent psychological analysis, laying emphasis as it does on the part which the recognition by others plays in the growth of self-consciousness,[1] would have led us to suspect this account. It is, of course, true that we interpret other minds and wills by the analogy of our own, but it is equally true that it is in the minds and through the wills of others that we come to know our own. The knowledge of ourselves is in as true a sense mediated as our knowledge of others. We may say if we like that we only infer the existence of other minds as the hypothesis that best explains the facts of experience. But no argument can be brought in support of the view that the existence of other minds is hypothetical which would not apply equally *mutatis mutandis* to the existence of our own. Here, as in the case of subject and object in general, it is better to say that "others' consciousness" is one of the factors which the analysis of self-consciousness yields to the psychologist, "own-consciousness" being the other. They thus stand on the same level of immediacy, for neither is really immediate at all.[2]

[1] See *e.g.* Sully, *Human Mind*, ii., p. 100 foll.

[2] One undoubted advantage of this way of putting the matter is that we cut the ground from underneath the form of solipsism which battens upon the ordinary psychological analysis.

If these contentions are valid the unity of apperception does not really stand in antithesis to the unity of the percept as the transparent to the opaque. The two stand on the same level and must be treated alike. They were so treated by Kant, who placed the ultimate reality of both beyond the sphere of discursive intelligence. The contention of this paper is that this is an *überwundene Standpunkt*. Its error is, in a word, that it mistakes mere existence for reality. Instead of being the fullest of the predicates of thought containing the reality of the thing as an unrevealed and (let us be frank) unrevealable secret, the determination of it as an existing "this" is the emptiest and most abstract. For it is just that one which cuts it off from other things and from the mind which thinks it; and just as the surest way to miss the reality of mind is to look for it in abstraction from the world it knows, so the surest way to miss the reality of the object is to look for it in abstraction from its relations to other things and to the mind for which these relations exist.

To sum up: We have seen that knowledge aims in the first place at exhausting and in the second place at reducing to unity the complex contents of experience. In the second place these two (complete differentiation and complete unification) are not two different ideals but different sides of the same. They take their place as constituent elements in the process by which individuality, significance, reality is given to things. Coming in the third place to the question of the relation of such individuality to ultimate essence, I have tried to show that there is no reason to hold that the system of predicates, which is the form this individuality takes in the mind, is a mere appearance which, in order that it may correspond to the nature of the thing as it is in itself, must lose this form and be merged in another which is no longer knowledge. To maintain this, as has recently been done, is to revive Kant's doctrine of the Thing-in-itself in a form which ignores without meeting the most characteristic contention of modern philosophy, that reality is to be looked for not in the abstract but in the concrete individual.

III.—SYMBOLIC REASONING. (II.)

(For I. see MIND, January, 1880.)

BY HUGH MACCOLL.

SYMBOLIC Logic (including Mathematics) may be defined as 'the science of reasoning by the aid of representative symbols; these symbols being employed as *synonymous substitutes for longer expressions that are required frequently*'. The words in italics contain the pith and principle of the whole subject. When any expression, verbal or symbolic, of inconvenient length has to be written frequently in the course of an argument or investigation, we naturally cast about for some short and simple symbol to represent and replace it. This desire to economise time, space and labour is always, always has been, and always will be, the great motive power that sets going and keeps going the evolutionary progress of the science. What, for instance, was the primary object of the symbol $\times$ in such a case as 27365×7? Clearly to save the trouble of writing down an addition sum of seven rows of figures, each row being 27365. The same may be said of the symbol a^5 as a substitute for $aaaaa$, and of many others, including the remarkable and highly general symbol $\phi(x)$, which plays such an important part in the higher mathematics as a substitute for any expression whatever that contains x in any relation whatever as one of its constituents. As Symbolic Science advances and tackles more difficult problems these conventional abbreviations afterwards combine among themselves and produce fresh expressions of inconvenient length and frequent recurrence which give birth in *their* turn to fresh representative substitutes—to abbreviations of abbreviations—which in their powers of thought-condensation bear, on an average, the same ratio to the symbols they replace as these had done to *their* immediate progenitors. Thus it has been that the science of mathematics has slowly acquired its present marvellous

power within the limits of its application; and thus it will be that the newer but more general science of symbolic logic, with a wider sweep and bolder aim, will before long develop into a still more powerful instrument of research.

The problems with which our reason has to deal are of various kinds and cannot be exhaustively classified. Sometimes from certain data or premises A, *known or admitted to be true*, we have to prove a conclusion Q; that is to say, we seek to convince ourselves or others that Q *as well as* A *is true*. Sometimes we have data or premises P which are *not* always certain or admitted to be true, and then we seek to prove—*not* the conclusion Q—that cannot be done from uncertain or unadmitted data—but the proposition that P *implies* Q, *i.e.*, that *if* P is true Q is true—which is quite another matter. Sometimes our reason has to deal with the *inverse* problem, namely, to find from what data or premises Q we can derive a conclusion P, as when we seek the possible roots of a given equation. These are only two or three of the kinds of problems of which it is the business of logic to find solutions, but as they are among the commonest we will take them first in the order of consideration.

Since the conditional proposition *If* P *is true* Q *is true* (or P *implies* Q) is one of frequent recurrence we want some symbol to represent it. What symbol should we adopt? Various logicians have adopted various symbols, each giving some reason founded on some mathematical analogy for his own special choice. Boole adopts $P = \frac{0}{0} Q$ or $P = v\,Q$; Pierce takes $P -\!< Q$; Schröder uses $P \Subset Q$; and there are many others: each writer, as I have said, justifying his choice on the ground of some real or fancied mathematical analogy. My own choice has been the symbol P : Q, *not* (as has been erroneously supposed) on the ground of any analogy to a ratio or division, but simply because a *colon* symbol is easily formed, occupies but little space—two important considerations—and—though this is less important—because it is not unpleasing to the eye. I hold that we may claim the same liberty of definition and interpretation for any of our symbols of relation (+, =, :, etc.) as we claim for any letter of the alphabet, x, when in one problem (some unit of reference being understood) we say "Let x denote his gain"; in another "Let x denote his loss"; and in another "Let x denote the distance of the planet Neptune". So long as it suits our purpose to attach the same meaning to any symbol, so long we should adhere to that meaning—so long,

and no longer. As a general rule we should be as conservative as circumstances will permit in the significations we give to our symbols of relation (+, =, :, etc.): these are the *constants*, the *fixed stars*, as it were, of our logical systems; while we may deal more freely with our planetary ever-varying symbols, x, y, a, b, etc., which generally denote numbers or ratios in mathematics, and classes, properties or statements in logic. But as even the so-called fixed stars are only found to be *relatively* fixed, so our so-called *constant* symbols of relation need only be *relatively* constant. In my former paper in MIND ("Symbolical Reasoning," MIND, Jan., 1880), and in my papers in the *Proceedings of the Mathematical Society* which had preceded it, I adhered throughout to the symbol $a : \beta$ as my representative of an implication; but when, after several years' abandonment, I recently returned to my logical studies and began to consider the complex relations of the higher orders of implications, as in the formula

$$(a : \beta) : \{ (u : a) : (u : \beta),$$

I felt the necessity of further abbreviations and adopted a_β as a synonym of $a : \beta$, so that the above formula might appear as

$$a_\beta : (u_a : u_\beta).$$

I also tried how the symbol a^u would act as the converse of a_u and meaning that a *is implied* in u. This led immediately and of necessity to the discovery that the formulæ $a^u a^v = a^{u+v}$, $(a\beta)^u = a^u \beta^u$, and $a^0 = 1$ would on this interpretation hold good in logic as well as in mathematics; but I found that the series of analogies stopped when I tried $a^{uv} = (a^u)^v$. Then I tried a^u as a substitute for $a + u'$ (the alternative implied by u_a) and found that the preceding three analogies still held good, and also this fourth analogy $a^{uv} = (a^u)^v$, but that, on the other hand, this interpretation of a^u would lead to an additional logical formula $a^{uv} = a^u + a^v$, which does *not* generally hold good in mathematics.

If we take a^u as synonymous with u_a it is evident that every formula with *indices* may be converted at once into an equivalent formula with subscripts, and *vice versâ*. Thus

$a^u a^v = a^{u+v}$ corresponds to $u_a v_a = (u + v)_a$
$(a\beta)^u = a^u \beta^u$ corresponds to $u_{a\beta} = u_a u_\beta$
$a_\beta : (u_a : u_\beta)$ corresponds to $\beta^a : (a^u : \beta^u)$,

and so on. The last formula may be read thus: "If β is a factor of a (that is, if the statement β is implied in the

statement a); then, if a is a factor of u, β must also be a factor of u". In spite however of the mathematical analogies obtained by the above interpretation of indices, I found it generally more convenient to employ the subscript form u_a as a synonym for $u : a$, and to reserve indices for other uses. What chiefly led me to this decision was the discovery that in dealing with implications of the higher degrees (*i.e.* implications of implications) a calculus of two dimensions (unity and zero) is too limited, and that for such cases we must adopt a *three*-divisional classification of our statements. We have often to consider not merely whether a statement is *true* or *false*, but whether it is a *certainty*, like $2 + 3 = 5$; an *impossibility*, like $2 + 3 = 8$; or a *variable* (neither always true nor always false), like $x = 4$. To illustrate the meaning of a *variable* statement, we may suppose x in the last statement to be taken at random out of three possible and equally probable values 2, 4, 6. If this experiment be repeated often enough, the statement $(x = 4)$ will be sometimes true and sometimes false; its chance of being true will, in fact, be *one-third*. The formula

$$(a : \beta) : (u_a : u_\beta)$$

is another example of a *certainty*; for it holds good whether its elementary constituents (u, a, β) be *certainties*, *impossibilities*, or *variables*—separately or conjointly. But this does not apply to the converse implication

$$(u_a : u_\beta) : (a : \beta),$$

which fails for some values of its constituents, as, for example, when u is a *certainty*, a a *variable*, and β an *impossibility*.

This necessity for a[1] three-divisional classification of statements naturally suggested the adoption of some corresponding modification in notation; so I chose the symbol ϵ (as in my *fourth* paper in the *Proceedings of the Mathematical Society*) to replace *unity* as the symbol of *certainty*; η (instead of *zero*) as the symbol for an *impossibility*; and θ as a suitable symbol to denote a statement which is neither a *certainty* nor an *impossibility*, whose chance of being true is neither *unity* nor *zero*, and which, therefore, may fitly be called a *variable*. For distinguishing these three classes of statements the notation of indices is most convenient. The three equational symbols $(a = \epsilon)$, $(\beta = \eta)$, and

[1] For other divisions and a logic of 3^n dimensions, see note at the end of this paper.

($\gamma = \theta$) will very well express that α is a *certainty*, β an *impossibility*, and γ a *variable;* but in complicated cases (in order to economise space and dispense as far as possible with those necessary evils called *brackets*) still simpler symbols were desirable. I therefore chose indices to denote *classes* of statements, so that, for example, the symbol α^u asserts that *the statement* α *belongs to the class of statements denoted by the symbol* u. On this interpretation, the three symbols α^ϵ, β^η, γ^θ respectively assert that α is a *certainty*, β an *impossibility*, and γ a *variable*, and are therefore synonymous with the three longer symbols ($\alpha = \epsilon$), ($\beta = \eta$), and ($\gamma = \theta$). Again, putting τ for a *true* statement (not necessarily a *certainty*) and ι for a *false* statement (not necessarily an *impossibility*), α^τ will assert that α is true, and α^ι that α is false. Thus $\alpha^\tau : \beta^\tau$ in my new notation becomes equivalent to $\alpha : \beta$ in my former; $\alpha^\tau : \beta^\iota$ becomes equivalent to $\alpha : \beta'$; $\alpha^\tau\beta^\tau$ to $\alpha\beta$; $\alpha^\tau + \beta^\iota$ to $\alpha + \beta'$; and so on; while α^ϵ (*not* α^τ) becomes equivalent to the former ($\alpha = 1$), and α^η (*not* α^ι) becomes equivalent to the former ($\alpha = 0$). The symbols 1 and 0 being thus displaced by ϵ and η were *ipso facto* set at liberty for other purposes. I use the former in conjunction with its old comrades 2, 3, 4, etc., in such cases as u_1, u_2, u_3, etc., which respectively denote *particular* statements of the class u. Thus the equational statement $\alpha\beta : \alpha + \beta = \epsilon_1$ asserts that the implication $\alpha\beta : \alpha + \beta$ is a particular statement of the class called *certainties*, and is the *first certainty* that has entered into our present argument. Similarly the equational statement $\theta^\eta = \eta_3$ asserts that θ^η is a particular statement of the class called *impossibilities*, and is the *third impossibility* that has entered into our argument. And so on for other *particular statements* η_2, ϵ_5, θ_4, etc., of their respective classes. On the other hand, I use the symbols $\alpha_{o\beta}$, α^{ou}, $\alpha_{o(u+v)}$, etc. (chiefly to avoid cumbersome brackets) as convenient synonyms for the denials $(\alpha_\beta)'$, $(\alpha^u)'$, $(\alpha_{u+v})'$, etc. For example, the formula $(\alpha + \beta)_{ou} = \alpha_{ou} + \beta_{ou}$ is much more convenient than its equivalent, the formula $\{(\alpha + \beta)_u\}' = (\alpha_u)' + (\beta_u)'$. Other symbols of abbreviation employed by me in my fifth paper (recently published) in the *Proceedings of the Mathematical Society* are the following:—

(1) α^{uv} is short for $(\alpha^u)^v$, so that $\alpha^{\eta\iota}$, $\alpha^{o\eta}$, $(\alpha^\eta)^\iota$, and $(\alpha = \eta)^\iota$ are all four synonymous, each denying the truth of α^η and asserting that α is a *possibility*. Similarly, α^{uvw} means $(\alpha^{uv})^w$; and so on.

(2) $\alpha^{u,v}$ is short for $\alpha^u + \alpha^v$; $\alpha_{u,v}$ is short for $\alpha_u + \alpha_v$; $(\alpha, \beta)^u$ is short for $\alpha^u + \beta^u$. Hence it is evident that $\alpha^{\epsilon\iota}$, $\alpha^{o\epsilon}$,

$a^{\eta,\theta}$, and $a^\eta + a^\theta$ are all four synonymous, each asserting that a is an *uncertainty*.

(3) $a \mid \beta$ is equivalent to $\beta : a$ and asserts that a *is implied in* β.

(4) $a : \beta : \gamma : \delta$ is synonymous with $(a : \beta)\ (\beta : \gamma)\ (\gamma : \delta)$; and $a \mid \beta \mid \gamma \mid \delta$ is synonymous with $(a \mid \beta)\ (\beta \mid \gamma)\ (\gamma \mid \delta)$. The former is a chain of *deductive*, and the latter a chain of *inductive, sorites*.

(5) The symbol : : is synonymous with = , but of *shorter reach*, so that the equation $a : : \beta = \gamma$ means $(a : : \beta) = \gamma$, and does *not* mean $a : : (\beta = \gamma)$, which would be denoted by $a = \beta : : \gamma$. The main object of the symbol : : , as a synonym of =, is to avoid a multiplicity of brackets. For example, the formula

$$(a + \beta)_u : : a_u + \beta_u = a_u : : \beta_u$$

asserts that the equational statement on the left side of the sign (=) is equivalent to the equational statement on its right side, each implying the other.

(6) The symbol $\frac{a}{\beta}$ means $a_\beta\, a'_{o\beta}$ or its equivalent $a_\beta\, \beta^{e_a}$. It asserts (like a_β) that whenever a is true β is true; and it also asserts (what a_β neither asserts nor denies) that β is *not* always true when a is *not* true. The equivalence of $a_\beta\, a'_{o\beta}$ and $a_\beta\, \beta^{e_a}$ is easily proved, so that either may be taken as a definition of $\frac{a}{\beta}$. The statement $\frac{a}{\beta}$ is called a *Causal* implication, as it indicates some causal connexion between a and β, whereas its factor, the *general* implication a_β, is synonymous with $(a\beta')^\eta$ and does not necessarily indicate any causal connexion. Thus a_β always holds good when β is a *certainty*, whatever a may be; and it also always holds good when a is an *impossibility*, whatever β may be; so that a_ϵ and η_a are always *certainties* even when $a = \eta$. On the other hand, the causal implication $\frac{a}{\beta}$ contradicts its definition and becomes an impossibility when β is a certainty.

(7) The symbol $a > \beta$ means $a_\beta\, \beta_{oa}$. It asserts that a implies β, but that β does not imply a. In this case a is said to be *stronger* than β. On the other hand, $a < \beta$ means $\beta > a$ and asserts that a is *weaker* than β. It is evident that, by this definition, $a > \eta$ is an impossibility, as it implies η_{oa}, which is easily proved to be inconsistent with our definitions. As a rule, the greater the number of factors in a statement (that is to say, the more it asserts) the *stronger* it is; but, on the other hand, the greater the chance as a rule that it contains an *inconsistency some-*

where; and a single inconsistency η (like a zero-factor in mathematics) makes the whole an inconsistency. Hence, no statement can be stronger than an *impossibility*. By parity of reasoning, no statement can be weaker than a *certainty*. A witness whose testimony consisted of a restatement of facts already admitted and unquestioned would not be very helpful in any serious and *bonâ fide* inquiry or investigation.

(8) Two more symbols remain, and they involve an important principle. These are WA and SA. The first denotes the *weakest premise from which we can infer* A; and the second denotes the *strongest conclusion which we can draw from* A. The symbol A is here understood to denote some function $\phi\ (\alpha, \beta)$ of two or more constituents α, β, etc.; while WA and SA denote some other functions $\psi_1\ (\alpha^u, \beta^v)$, $\psi_2\ (\alpha^u, \beta^v)$, with constituents α^u, β^v, etc., in which u and v may each denote ϵ, or η, or θ, as the case may be. For example, the formula

$$\mathrm{W}\ (\alpha\,\beta)^\theta = \alpha^\epsilon\,\beta^\theta + \alpha^\theta\,\beta^\epsilon.$$

asserts that the *weakest premise* (with subject α or β, and predicate ϵ or η or θ) from which we can infer that $\alpha\beta$ is a *variable* is the alternative that either α is a *certainty* and β a *variable*, or else α a *variable* and β a *certainty;* while the formula

$$\mathrm{S}\ (\alpha\beta)^\theta = \alpha^{\eta_1}\beta^\theta + \alpha^\theta\beta^{\eta_1}$$

asserts that the *strongest conclusion* we can draw from $(\alpha\beta)^\theta$ *alone* (*i.e.* without further data) is the alternative that either α is a *possibility* and β a *variable*, or else α a *variable* and β a *possibility*.

It is evident that the formula WA : A : SA is a *certainty;* and a little consideration will show the validity also of the formulæ WA′ = S′A and SA′ = W′A, in which S′A and W′A denote the denials of SA and WA, and are therefore short for (SA)′ and (WA)′. In other words, the weakest premise from which we can infer the denial of A (or that A is false) is the denial of the strongest conclusion we can draw from A; and the strongest conclusion we can draw from the denial of A is the denial of the weakest premise (or data) from which we can infer A. For example, assuming the formula $\mathrm{W}\ (\alpha : \beta) = \alpha^\eta + \beta^\epsilon$, we get

$$\mathrm{S}\ (\alpha : \beta)' = \mathrm{W}'\ (\alpha : \beta) = (\alpha^\eta + \beta^\epsilon)' = \alpha^{\eta_1}\beta^{\epsilon_1}\ ;$$

so that the strongest inference we can draw from the *denial* of the implication $\alpha : \beta$ is that α is a *possibility* and β an *uncertainty*.

I think I may predict that *synonyms* are destined to play an important part in the future development of symbolic logic, as they undoubtedly have done in the natural evolution of ordinary language. As new needs and new ideas arise with the growth of civilisation and the general advance of humanity, do we not often find that two words which were at first synonyms gradually differentiate and, while still remaining synonymous in some combinations, cease to be so in others?—just as a_β and $\frac{a}{\beta}$ are interchangeable in the equivalent statements $a^\theta\beta^\theta a_\beta$ and $a^\theta\beta^\theta\frac{a}{\beta}$, but not in the non-equivalent statements $a^\theta\beta^\epsilon a_\beta$ and $a^\theta\beta^\epsilon\frac{a}{\beta}$, of which the second, but not the first, is always an *impossibility*. And does not this principle of evolution powerfully contribute to the precision and utility of a language, both as an instrument of research and as a medium for communicating our ideas to others? In connexion with these remarks it will not be irrelevant to mention that before the idea of differentiating between the symbols a_β and $\frac{a}{\beta}$ occurred to me I was in the habit of using sometimes the one and sometimes the other as a synonym for the general implication $a : \beta$; so that when I afterwards found it convenient to give symbolic expression to the idea of a *causal* implication I at the same time found a suitable symbol for the purpose ready to my hand.

In ordinary speech not only do we find different words with the same meaning, but also different meanings to the same word; yet it seldom happens that this leads to real ambiguity: the context nearly always removes all danger of miscomprehension. The same rule holds good in symbolic logic, with this difference that here, from our complete liberty to define our symbols as we please, we can guard against the danger with absolute certainty. In my first paper in the *Proceedings of the Mathematical Society*—a paper which deals almost exclusively with the limits of multiple integrals and with probability—I employed each of the symbols x_1, x_2, x_3, etc., y_1, y_2, y_3, etc. (and so on for any number of variables x, y, z, etc.), in two different senses in the same argument; the symbol y_8, for example, denoting the eighth limit of the variable y registered in an accompanying table of reference, and also denoting the *statement* that this limit y_8 is positive; yet this double signification of the

same symbol never produces ambiguity, the context always showing what meaning attaches to it in each particular case. The following simple example of a double-meaning symbol is taken from my recent paper in the *Proceedings of the Mathematical Society.*

Let x^u, x^v, x^w respectively assert that the number (or ratio) x is real and positive, that x is real and negative, that x is imaginary, so that the disjunctive statement $x^u + x^v + x^w$ is a *certainty;* and let y^u, y^v, y^w, $(x + y)^u$, $(x + y)^v$, $(x + y)^w$ be interpreted in the same manner. What is the weakest premise in classifying x and y from which we can infer the conclusion $(x + y)^u$? And what is the strongest conclusion we can draw from $(x + y)^u$ as our only premise? The answers are obtained by an easy symbolic process and are

$$\text{W } (x + y)^u = x^u y^u;$$
$$\text{S } (x + y)^u = x^w y^w + x^{wi} y^{wi} (x^u + y^u).$$

The first answer may be read: "The *least* that we *must* know, and the *most* that we *need* know, as to the classification of x and y into positive, negative or imaginary, in order to infer that their sum is real and positive, is that each is real and positive. We cannot infer it from less (*i.e.*, weaker) data." The second answer may be read: "The most that we can infer about x and y when we only know that their sum is real and positive is the alternative that either both or neither are imaginary, and that in the latter case one at least is real and positive".

Observe that the sign + is here used in two different senses. In $(x + y)^u$ it connects two *numbers* (or ratios), so that $x + y$, the sum of those numbers, must also be a number; while in $x^u + y^u$, it connects two *statements*, so that the disjunctive $x^u + y^u$ must also be a *statement.* It may be objected that the employment of x^u, x^v, x^w in this way as *statements* might interfere with the free use of the same symbols when u, v, w represent mathematical quantities, such as 2, 3, $\frac{1}{2}$, etc. The reply to this is that we have only to agree or define that the letters u, v, w (or any others we choose) shall, *during the same argument or investigation,* be restricted as indices to the meanings we have assigned to them; while other indices may retain their usual mathematical signification. For example, x^{3v}, as an abbreviation for $(x^3)^v$, would assert that x^3 is real and negative; while x^{v3}, if accompanied by no definition, would be meaningless.

To show the working of this logical calculus of three dimensions I may take the following problem, which Dr.

Venn in his *Symbolic Logic* (second edition, p. 442) calls "Alice's Problem," and which I understand has (under another form) been already discussed by logicians, but with varying conclusions.

Given the statement $A_B(C : A_B')$, can C be true?

My answer is (1) that the data are not sufficient to justify the conclusion that C is possible; and (2) that the data are not sufficient to justify the conclusion that C is impossible. This I prove as follows:—

Putting ϕ for $A_B(C : A_B')$, we get, by a process explained in my fifth paper in the *Proceedings of the Mathematical Society*,

$$W\phi = A^\eta + B^\epsilon C^\eta$$
$$S\phi = W\phi + A^\theta B^\theta C^\eta = A^\eta + B^\epsilon C^\eta + A^\theta B^\theta C^\eta.$$

Now, if $C^\eta S\phi$ could be proved $= \eta$, we should have $S\phi : C^{\eta_1}$, and then C^{η_1} would be a legitimate conclusion from ϕ. But

$$C^\eta S\phi = C^\eta(A^\eta + B^\epsilon + A^\theta B^\theta) = C^\eta S(A_B),$$

which, without further data, can *not* be proved $= \eta$. Hence, *we cannot from ϕ draw the conclusion that* C *is possible.*

Again, if $C^{\eta_1} S\phi$ could be proved $= \eta$, we should have $S\phi : C^\eta$, and C^η would then be a legitimate conclusion from ϕ. But $C^{\eta_1} S\phi = A^\eta C^{\eta_1}$, which, again, without further data, cannot be proved $= \eta$. Hence, *we cannot from ϕ conclude that* C *is impossible.* Thus we have not sufficient data from which to infer either C^η or its denial C^{η_1}. In other words, though C must either be possible or impossible, we cannot from the given statement $A_B(C : A_B')$, without some additional premise, ascertain which alternative is the true one.

In obtaining the results $W\phi$ and $S\phi$ I assumed a proposition which is not quite self-evident, namely, that the data $A_B(C : A_B')$ constitute an *impossibility* when A, B, C are all three *variables.* This proposition I now proceed to prove.

No implication $\alpha : \beta$ can be a *variable*[1] when (as in the data of this problem and throughout the preceding argument) its antecedent α and consequent β are both *singulars;* that is to say, when each letter denotes only *one statement, and always the same statement,* be it of the class ϵ or η or

[1] This is a point which I did not make sufficiently clear in my recent paper in the *Proceedings of the Mathematical Society* when discussing $W(\alpha : \beta)^\theta$ and $S(\alpha : \beta)^\theta$. The implication $\alpha : \beta$ would be a variable *if α and β were taken at random repeatedly out of statements belonging some to the class ϵ, some to the class η, and some to the class θ.* For another case in which $\alpha : \beta$ would be a variable, see the concluding paragraph of this paper, preceding the note on a logic of 3^n dimensions.

θ. Hence, $a : \beta$ being synonymous with $(a\beta')^{\eta}$ must be either $= \epsilon$ or else $= \eta$; it cannot be $= \theta$. This being assumed, we have to prove that

$$A^{\theta}B^{\theta}C^{\theta}A_B(C : A_B') = \eta.$$

Since, by hypothesis, the premise A_B is an implication with *singular constituents*, it must be either $= \epsilon$ or else $= \eta$. If $A_B = \eta$, the data contain an impossible factor A_B, and therefore must $= \eta$, which was the proposition to be proved. On the other hand, if A_B does *not* $= \eta$, then A_B must $= \epsilon$. Hence, A_B' must $= \eta$; otherwise we should both have $A_B = \epsilon$ and also $A_B' = \epsilon$, which would imply A^{η}, which would contradict our assumption A^{θ}. Thus we have $A_B = \epsilon$ and $A_B' = \eta$, which reduces $A^{\theta}B^{\theta}C^{\theta}A_B(C : A_B')$ to the form $A^{\theta}B^{\theta}C^{\theta}(C : \eta)$, which implies C^{η}, which contradicts our assumption C^{θ}. Hence, whether we take $A_B = \epsilon$ or $A_B = \eta$ (the assumption $A_B = \theta$ being here inadmissible) the statement $A^{\theta}B^{\theta}C^{\theta}A_B$ $(C : A_B')$ reduces to η; *quod erat demonstrandum*.

A problem of somewhat more complexity is the following: Let ϕ denote the implication

$$u_{a,\beta}\,(a,\beta)_v : u_v,$$

which, by definition, is equivalent to

$$(u_a + u_\beta)\,(a_v + \beta_v) : u_v,$$

and may easily be proved equivalent to

$$u_a\,\beta_v + u_\beta\,a_v : u_v.$$

For what values of u, a, β, v (expressed in terms of ϵ, η, θ) is ϕ true? For what values false?

The answers which I find are (1) that ϕ is true for every term in the disjunctive statement

$$u^{\eta} + v^{\epsilon} + a^{\epsilon}\beta^{\epsilon} + a^{\eta}\beta^{\eta} + u^{\epsilon}v^{\eta}\,(a,\beta)^{\theta} + u^{\epsilon}v^{\theta}\,(a^{\theta}\beta^{\epsilon_1} + a^{\epsilon_1}\beta^{\theta})$$
$$+ u^{\theta}v^{\eta}\,(a^{\theta}\beta^{\eta_1} + a^{\eta_1}\beta^{\theta}),$$

and (2) that ϕ is false for every term in the product

$$(u^{\epsilon}v^{\epsilon_1} + u^{\theta}v^{\eta})\,(a^{\epsilon}\beta^{\eta} + a^{\eta}\beta^{\epsilon}).$$

These two results, I believe, include all cases; that is to say, the first result is the value of $W\phi$, and the *denial* of the second result is the value of $S\phi$. To show how any case may be verified let us take the term $u^{\theta}v^{\eta}a^{\eta}\beta^{\epsilon}$ in the second result. If this term be correct ϕ should reduce to η when we put $u = \theta$, $v = \eta$, $a = \eta$, and $\beta = \epsilon$. Substituting these values in the third form of ϕ, we get

$$\theta_{\eta}\epsilon_{\eta} + \theta_{\epsilon}\eta_{\eta} : \theta_{\eta} \text{ which } = \eta\eta + \epsilon\epsilon : \eta = \epsilon : \eta = \eta,$$

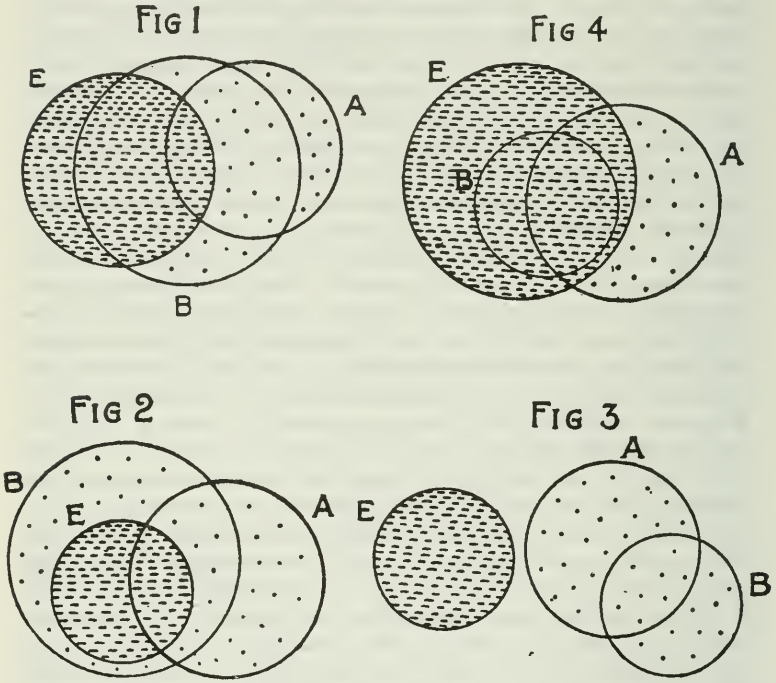
as we should have.

Many persons who are ready enough to admit the utility of mathematics profess scepticism as to the advantages of symbolic logic. To these I would remark, firstly, that the latter is the more general science and includes the former; and, secondly, that, apart from its aid to accurate thinking in general, symbolic logic has already (as shown in my first paper in the *Proceedings of the Mathematical Society*) rendered important assistance in one of the most difficult and perplexing parts of mathematics. It was a true instinct that led Boole to attempt the construction of what he called a "General Method in Probabilities," founded on symbolic logic; but unfortunately Boole allowed an essentially false principle to vitiate his whole reasoning, so that his elaborate "General Method in Probabilities," into whose service he presses the highest branches of mathematics, becomes, alas! from this one flaw, a gigantic and imposing fallacy. His solution of the "challenge problem" which he proposed as a test of the power and efficacy of his method I have proved to be wrong in my fourth paper in the *Proceedings of the Mathematical Society;* and, in my controversy with Dr. MacAlister (see vol. xxxvii. of *Mathematical Questions with their Solutions from the* Educational Times), I think I have succeeded in laying bare the subjective fallacy over which Boole and many others after him have stumbled into error. "*When the probabilities of events are given,*" says Boole, "*but all information respecting their dependence withheld, the mind regards them as independent*" (*Laws of Thought*, p. 256). And further on he says: "*We must regard the events as independent of any connexion beside that of which we have information*". In other words, when we have no information as to any connexion between A and B, but know (from observation or otherwise) that the chance of A happening is a and that of B happening is b, we may infer that the chance of *both* happening is ab—an utterly fallacious principle. Cases in which, from these data, the chance of the concurrence is ab, and cases in which it is *not* ab, may be exhibited to the eye by a simple geometrical construction, fixed and unvarying, as I have shown in my fourth paper in the *Proceedings of the Mathematical Society*, so that the chance remains always the same whether or not "the mind regards the events as independent".

No one can admire Boole's *Laws of Thought* more than I do. As a philosophical and speculative work it is brimful of profound thought and original suggestions, while its style is charmingly lucid and attractive; but none the less must

I express my opinion that the work is weakest where it is generally supposed to be strongest, namely, in the power and originality of its logical calculus, and that what Boole himself, and others after him, considered his greatest achievement and "the crowning triumph of his method," namely, the application of his calculus to probability, is precisely that portion of his work in which his failure has been complete and absolute. Boole may not inaptly be compared to Shakespeare. Both authors possessed a remarkable *analytical* insight into the workings of the human mind; the one of its secret motives and passions; the other of the subtle laws of its intellectual operations; yet both—the one judged by his plays, the other by his *Laws of Thought*—showed but little *constructive* ability. Just as Shakespeare limited himself to skilful adaptations to his purpose of the dramatic plots of preceding playwrights or of the accepted facts of history, so Boole limited himself to skilful adaptations to new uses of the rules and formulæ which he found ready to his hand in mathematics. Boole undoubtedly showed great originality and ability in his *application* of these rules and formulæ, and an unfortunate thing I believe it has been for symbolic logic that he did show this originality and ability. I cannot help thinking that the seeming success which attended his efforts to squeeze all reasoning into the old cast-iron formulæ constructed specially for numbers and quantities has tempted many other able logicians to waste their energies in the like futile endeavours; when those energies might have been employed with far greater chances of success in inventing new and independent formulæ, more elastic and more suitable for the highly general and widely varying kinds of problems which are destined to enter more and more largely into the ever-expanding subject of Symbolic Logic. As regards the introduction of absolutely new symbols, such as Schröder's $=\!\!\in$ and Pierce's $-\!\!<$, I think it should be avoided as much as possible. Generally speaking, it is better to put to fresh uses the familiar symbols of old acquaintance than have recourse to strangers. This may be a conservative prejudice on my part, but it is a fact that I have myself introduced no new symbol, though I have freely exercised my right of definition and interpretation as regards some of the symbols and combinations of symbols already in common use among mathematicians. The symbols $+$, $=$, $:$, $::$, with subscripts, indices, and commas, are all old friends; while the symbol !, though a more recent arrival on mathematical territory, has been there long enough to have acquired the rights of naturalisation.

Diagrammatic Illustrations. The accompanying figures will help us to understand, and fix in our mind, the meanings of the symbols $a : \beta$, $\frac{a}{\beta}$, $a' + \beta$, $a\beta'$, and others which we have been discussing in the preceding pages.



Consider first Fig. 1. Let the collection of points in the circle E be our *universe of discourse*, all points not included in E being left out of account. Let a point P be taken at random in the collection E, and let the symbols ϵ, a, β, respectively assert that P will belong to the collection E, that it will belong to the collection A, that it will belong to the collection B. From the disposition of the circles in the case we are considering (Fig. 1), this random point P may or may not turn out to be in A, and it may or may not be in B, so that the statements a and β may be true or false; and if the experiment be repeated often enough, each of the two statements will be sometimes true and sometimes

false. Hence, in this case a and β are *variables*, and so are their denials a' and β'. For Fig. 1 therefore we have $a^\theta\beta^\theta$.

Next consider Fig. 2; and as before let P be taken at random in the collection E; while, as before, ϵ, a, β, respectively assert that P will belong to the collection E, that it will belong to the collection A, that it will belong to the collection B. As before, a may turn out true or false, but this time β *cannot be false*, since the point P is restricted, by hypothesis, to the collection E, which is wholly included in the collection B. In this case therefore a is a *variable*, but β is a *constant* of the class ϵ or *certainties;* so that for this figure we have $a^\theta\beta^\epsilon$.

Next consider Fig. 3. Here neither a nor β can possibly be true, since the collections A and B are both excluded from our universe of discourse; so that we have $a^\eta\beta^\eta$.

Now let us consider the implication $a : \beta$ and its implied alternative $a' + \beta$. The alternative $a' + \beta$ is a *certainty* in Fig. 1, for here its denial $a\beta'$ is an *impossibility*, as no point *taken at random in the collection* E can, at the same time, belong to the class A and *not* belong to the class B. In Fig. 1 therefore we have $(a\beta')^\eta$, which is equivalent to $(a' + \beta)^\epsilon$ and also to $a : \beta$.

In Fig. 4 the alternative $a' + \beta$, and therefore also its denial $a\beta'$, are *variables;* for in Fig. 4 either statement (*i.e.* the alternative or its denial) may be true or false; and if the experiment of the random point P be repeated often enough, each will be sometimes true and sometimes false. The statement $a' + \beta$ is true, and its denial $a\beta'$ false, every time P happens *not* to be in A, and also every time it happens to be in B; and *vice versâ*.

In Fig. 1 not only have we $a : \beta$ true (with its synonym a_β) but also the *causal* implication $\frac{a}{\beta}$, which implies both a_β and $\beta^{\epsilon\iota}$ by definition. But this is not the case in Fig. 2; for in Fig. 2 we have β^ϵ, as already shown, which contradicts $\beta^{\epsilon\iota}$; so that in Fig. 2 the *causal* implication $\frac{a}{\beta}$ is false.

In Fig. 4 the *general* implication $a : \beta$, and therefore also the *causal* implication $\frac{a}{\beta}$, are false. For $a : \beta$ means $(a\beta')^\eta$ and asserts that $a\beta'$ is an *impossibility;* whereas in Fig. 4 we have the denial of this, namely $(a\beta')^{\eta\iota}$, which asserts that $a\beta'$ is a *possibility*.

In Fig. 3 the *causal* implication $\frac{a}{\beta}$, and therefore also the

general implication $a : \beta$, are true; for in Fig. 3 we have $(a\beta')^{\eta}\beta^{\epsilon}$; the compound statement $a\beta'$ being an *impossibility* because of its impossible factor a, and β being an *uncertainty* because it is here an *impossibility*—the stronger statement implying the weaker.

Throughout the preceding discussion, in considering the varying positions of the point P, we assumed the collections of points E, A, B to be fixed and always the same; so that while the statements a, β, $a' + \beta$, and $a\beta'$ might be *variables*, the implication $a : \beta$ was always a *constant* belonging, according to the positions of the *fixed circles*, either to the class ϵ or to the class η. But if we abandon this assumption of *fixedness* and suppose the circles E, A, B to be formed *randomly* under some limiting conditions—such, for example, as taking two random points in some given area and considering the straight line joining them as the diameter of a random circle—the case will be altered. If this experiment be repeated often enough, the implication $a : \beta$ will now be sometimes true and sometimes false; that is to say, it will be a *variable*, and in some cases it will be a variable whose chance of being true admits of accurate calculation.

Note on a Logic of 3^n *Dimensions.* The preceding three-divisional scheme of logic is more especially suited for problems in probability, the statements a^{ϵ}, a^{η}, a^{θ} respectively asserting that the chance of a being true is *unity*, that it is *zero*, that it is *less than unity and greater than zero.* On this understanding, the symbol $a : \beta$, being synonymous with $(a\beta')^{\eta}$, asserts that the chance of the truth of the compound statement that affirms a while denying β is *zero.* But this is not always the meaning of the word 'implies' in mathematics. When we say that a formula a (such as Taylor's or Maclaurin's Theorem in the Differential Calculus) *implies* another formula β (such as the expansion of sin x or cos x in Trigonometry) there is no question of *chance* or *probability:* both formulæ are always true, and what we really mean is that β is a particular case of a. Similarly, when we say that the equational proposition or formula $a^2 - b^2 = (a - b)(a + b)$ *implies* the equational proposition

$$763^2 - 761^2 = (763 - 761)(763 + 761)$$

we mean that the numerical statement is a particular case of the algebraic one. So in logic we have

$$\phi^{\epsilon}(a, \beta) : \phi^{\epsilon}(a_1, \beta_1)\, \phi^{\epsilon}(a_2, \beta_2);$$

that is to say, if the formula $\phi(a, \beta)$ be valid for *all* values

of a and β, it must be true for the particular statements a_1, β_1 and also for the particular statements a_2, β_2, whatever these may be. In other words, $\phi\,(a_1, \beta_1)$ and $\phi\,(a_2, \beta_2)$ are particular cases of $\phi\,(a, \beta)$.

Again, let us suppose that we wish to establish some proposition x in mathematics or physics about whose truth we do not feel quite certain, and that we find its validity to depend upon the truth of another proposition a which seems easier to investigate, but whose truth is also uncertain. Here, as before, we may write $a : x$, and here also we have the element of uncertainty, as in problems of chance; but the uncertainty in this case is purely *subjective*, and can hardly be expressed by a numerical ratio;[1] for the chance of a being true is in this case always the same, *unity* or *zero*, whether we choose to consider it so or not, and our *uncertainty* is as to which of the two values we ought to assign to the unknown chance—if indeed the term *chance* is not here altogether a misnomer. To meet all these cases and bring them within the sweep of one logical scheme, we must have a logic not of three dimensions only, but of 3^n dimensions. Thus, let κ denote every statement *known to be true*, λ every statement *known to be false*, and μ every *doubtful* statement, *neither known to be true nor known to be false;* then, any formula $\phi\,(\epsilon, \eta, \theta)$ of the scheme described in the preceding pages may be converted at once,[2] by simple substitution of letters, into a formula $\phi\,(\kappa, \lambda, \mu)$ of this new and more subjective scheme. And these two corresponding three-dimensional schemes may be united into a *nine-dimensional* scheme. For example, $a^{\epsilon\kappa}$ would express $(a^{\epsilon})^{\kappa}$ and assert that a^{ϵ} *is known to be true*, or, in other words, that a *is known to be always true;* while $a^{\kappa\epsilon}$ would mean $(a^{\kappa})^{\epsilon}$ and assert that a^{κ} *is always true*, or, in other words, that a *is always known to be true;* which is quite a different statement from $a^{\epsilon\kappa}$. The statement $a^{\epsilon\kappa}$ (or a *is known to be always true*) might apply to a difficult mathematical proposition whose truth I had just discovered, but which I might afterwards forget; and to such a proposition $a^{\kappa\epsilon}$ (or a *is always known to be true*) would *not* apply. To any well-known truism, or any simple formula, like $(a + b)\,x = ax + bx$, which I could hardly, with a healthy brain, ever forget, both statements $a^{\kappa\epsilon}$ and $a^{\epsilon\kappa}$ would apply.

[1] Dr. Venn, in his *Logic of Chance*, holds substantially the same view; while Boole and De Morgan maintain the *subjective fallacy*. As a clear exposition of first principles Dr. Venn's work is unsurpassable.

[2] For example, the formula $(a + \beta)^{\epsilon} : a^{\epsilon} + \beta^{\epsilon} + a^{\theta}\beta^{\theta}$ in the one system becomes $(a + \beta)^{\kappa} : a^{\kappa} + \beta^{\kappa} + a^{\mu}\beta^{\mu}$ in the other.

Another three-divisional scheme would be the following: We might agree to make $\phi^a(x, y)$ assert that the formula $\phi(x, y)$ is true for *all* values of x and y; $\phi^n(x, y)$ that it is true for *no* values of x and y; and $\phi^s(x, y)$ that it is true for *some* value or values of x or y, or both, but not for all. These three schemes might, in like manner, be united into a twenty-seven-divisional scheme of symbolic logic; and so on *ad libitum*. It is evident that a logic of 3^n dimensions, constructed on these lines, though complicated for high values of n, would be in no way transcendental, like the geometry of a four-dimensional or n-dimensional space, but would be founded upon, and give results in accordance with, the daily and ordinary facts of our consciousness and experience.

[The problem discussed on page 502 has been discussed by its proposer in MIND for January, 1895.—EDITOR.]

IV.—SUGGESTIONS ON ÆSTHETIC.[1]

By E. H. Donkin.

Most of the modern writing upon Æsthetic which I have read seems to me to present great difficulties. The aim of the following suggestions is to offer a few lines of thought and points of view which might possibly help towards clearness and thoroughness in dealing with this subject.

I am able to understand and accept "the general formula of unity in variety" (Bosanquet, *Hist. of Æsthetic*, p. 4). The beauty revealed to the eye in a kaleidoscope is eminently a case of unity in variety.

But I would wish to have some reason assigned why unity in variety should commend itself to me as it does. I offer the following account.

Imagine that a consciousness could be made perfectly homogeneous in itself: imagine sameness as lording it completely in consciousness. Then that consciousness must shrivel up to a point. Ego would shrink to an atom; to zero. But now imagine a difference, a heterogeneity, introduced, in any form or any degree, and you necessarily expand the atom; it has parts; there are conscious states (not one state only); Ego begins to appear. But even as Ego appears, Ego is contradicted, thwarted: the duality in consciousness conflicts with the unity of Ego. Now minimise the difference in consciousness to the utmost extent consistently with keeping a difference: and the Ego realises its ideal of unity with the least possible opposition, the least possible jarring of the duality on its unity. Such an effect, I would suggest, is what we call a "beautiful" one. It must, however, be at once pointed out that the difference in consciousness must not be diminished to within certain limits. To gaze on and on at a single colour and let consciousness be differentiated merely by the temporal transition as moment succeeds

[1]The writer is indebted to Mr. J. H. Muirhead for criticisms and suggestions.

moment, would evoke a maximum of sameness and a minimum of difference in consciousness, but would not give a sensation of beauty; it would rather tend to coma. The differentiation must be of a further kind. More than one colour, for instance, seems needed. And there are in all cases similar limits to the minimising of the difference. I do not here inquire into the laws of such limits; I merely offer this account of the reason why sameness in difference commends itself to us, *viz.*, because on the one hand the Ego is maintained, there being fulfilled the indispensable condition of a certain differentiation in consciousness; and on the other hand this differentiation is reduced to the least degree that suffices, so that the Ego is as it were maintained with the least friction. If the friction, the duality, is further diminished, Ego begins to vanish into unconsciousness.

Passing on from this subject, I will state the general view which my various suggestions are intended to support. It is (1) that all beauty is essentially the same, whether it be the beauty of a geometrical pattern, a rainbow, a waterfall, a cliff, a poem, a statue, or a tragic drama: (2) that the formula "unity in variety" is as applicable to all such cases as it is to the simplest instance of formal beauty.

These statements, however, will seem to conflict with recognised authority. The so-called beauty of individual expressiveness seems to be dwelt on with great emphasis by writers, and is apparently set over against formal beauty as different from it, nay, as in some sense opposed to it; and this beauty of expressiveness seems to be regarded as the higher, and as being the beauty of the future: the beauty that is to supersede the bygone formal types.

The account of the matter which I would offer is different. I would make the fact of "expressiveness," the fact that, *e.g.*, a statue "expresses" some aspect of humanity, and the like, secondary. I would make unity in variety the paramount feature, the essence of beauty of every kind. I would find two exactly parallel forms of unity in variety in, say, a symmetrical ornamental pattern, and a statue: the two halves of the pattern, though different, are yet precisely symmetrical and the same; the real man and the stone statue, though different, are yet precisely similar and the same. This is a crude statement, and needs much amplification, but it will for the present make my meaning clear.

My view is as follows: Both races and individuals in their earliest stages love those modes of beauty in which extreme sameness in difference predominates; in which there is a pair of items that perfectly match (or, of course,

a group of pairs, etc.). But it is also the fact at an early stage, both with races and individuals, that they incline to accept pairs of items which do not completely match, as though they did match, and to feel them as beautiful. I do not attempt to say which mode of beauty, the perfectly or the imperfectly symmetrical, is historically prior.

Given this capacity to accept incomplete equivalents as though they were complete, the sense of beauty has endless possibilities open to it; and the so-called beauty of individual expressiveness, as I understand it, is simply beauty of this developed kind.

The question at once suggests itself, how this willing acceptance of the unsymmetrical arises. The question is perhaps the most profound and perplexing in all Æsthetic. Instead of attempting to answer it here, I will for the present merely give examples of the fact; instances of the contented acceptance of inadequate equivalents, trying in each case to detect what it is that persuades the mind to act as it does. A careful examination of particular examples might perhaps be employed with advantage more frequently in dealing with æsthetic problems.

The beauty of any imitative art, say statuary, is essentially illustrative of what has been said. It is in the first place a true case of sameness in difference; to put the matter crudely, the two items that are the same are the real man and the stone statue: their difference lies in the fact that one is living flesh and the other lifeless stone. To express the matter less crudely, we have, in the case of a statue that deserves admiration, two items: the first is the quality of humanness, so far as we have previously learnt to know it (the artist can only reveal to us what we have previously, even if unawares, learnt); and the second is the statue, which, though nothing but stone, faithfully represents this quality. And the point of importance is this: to be what we call a good work of art the statue must be visibly an insufficient equivalent for a human being; it must not deceive us into thinking that a real man is there. The subtle human quality must persist onwards into the antagonistic medium of stone. There lies the secret of the welcomeness of imitative art: it must display resemblance through antagonistic difference; and Théophile Gautier hit the philosophic nail on the head in his lines on Art, beginning:—

> Oui, l'œuvre sort plus belle
> D'une forme au travail
> Rebelle.

Whether the particular form represented is within itself beautiful is a separate question; the point I here emphasise is the mere truth to reality, shown in a medium adverse to the reality.

Why do we so value this? What is the psychological analysis of the "antagonism" in the teeth of which we thus love to see a quality holding its own? Have we here a case of the mere pleasure of recognition as referred to by Aristotle in the Poetics? Or are we to say that the inadequacy of the second item sets the imagination at work to fill up the defects, thereby making room for a particular mental activity? Or is there any merit in the following suggestion: when the same quality holds its own from one set of particulars to another, is the amount and degree and complexity of oneness subsisting between the two sets of particulars the measure of the complexity and depth of the felt oneness of Ego as yielded by the two conscious states; and is there in some sense a deeper oneness when the oneness is enhanced by something that acts as a foil to it? Is Ego's realisation of its own unity a sort of activity which like other activities needs something to overcome?

Let us pass to other examples, in the hope of gaining further light. An interesting one is the principle of the catalectic in metre.

One of Swinburne's sea poems is written in stanzas of eight lines each. The lines proceed in pairs: in each line there is a triple ictus—three emphasised syllables. In each stanza this continues uniformly until the eighth line, which, instead of the threefold ictus or the nine syllables we expect, suddenly presents us with only a double ictus or five syllables.

Here is a stanza:—

> The delight that he takes but in living
> Is more than of all things that live;
> For the world that has all things for giving
> Has nothing so goodly to give:
> But more than delight his desire is,
> For the goal where his pinions would be
> Is immortal as air or as fire is,
> Immense as the sea.

Now it appears to me that the ear distinctly accepts the shorter line as an equivalent for the longer line it had expected; and that, further, it finds the shorter line a welcome though insufficient equivalent. It may be objected that the shorter line is not felt as an *equivalent* for a longer one, but as a welcome *variety*. This is, for me, an understatement. My ear seems to exult in the very fact that the less fills the

place of, and is, the greater. I am exhilarated by perceiving victorious power: trammels fall away; what is not, nevertheless is; the half is indeed more than the whole. I need phrases like these to describe my sensation; to speak of the gratefulness of mere contrast is to my own feeling meagre.

Do such cases reveal any part of the secret? Can it be that the sense of victory and freedom which we gain in life generally through making the insufficient suffice, is what leads us to be ready to make the insufficient suffice in æsthetic? For it must be remembered, of course, that the sense of beauty develops, and varies; it seems to have been from the first and still to be largely modified, or nourished, or again stifled, by extraneous causes.

Before proceeding, let us place this last instance and the previous one side by side, for the sake of clearness: different as they are, they are capable of resting on the same principle.

1. We welcome the subtle human quality when it persists onwards into the contradictory medium of stone.

2. We welcome the subtle quality that first appears as nine-syllabled-ness when it persists onwards into the contradictory medium of five-syllabled-ness.

Precisely the same account should be given of the tendency in modern art to specialise the general or the ideal. This tendency appears in many forms. Suppose you are about to see one of Shakespeare's greatest plays performed, and that the greatest of living actors, whom you have never yet seen, is to present the chief character. You will, consciously or unconsciously, expect an ideal rendering: *the* rendering. Hitherto you have only seen makeshift Hamlets: this will be Hamlet indeed. When you hear the play, you may possibly find what was to have been an ideal rendering specialised by all kinds of particularities of manner, voice and reading, which the actor by no means tries to subdue in himself, but rather accentuates. He will give you Hamlet in an extreme of individuality; and you will not, now-a-days, be displeased. Once more, quality holds its own in spite of difficulty: the ideal can be maintained even within the special. Sameness holds good in the extreme of difference.

In every case of "beauty of expressiveness" I would give a similar analysis. I do not feel that the mere fact of expressiveness in itself constitutes beauty. Beauty arises, not merely when we have the nature of a thing expressed, but when we have concurrently present to consciousness that nature, and a true representation of it in a medium other than its own; that is, an adverse medium. I am far from supposing that I have penetrated deep in using such phrases

as "adverse medium"; I merely seek to mark out an obscure subject and to indicate a point where it seems a little less impenetrable than elsewhere.

There is an interesting class of questions which may be referred to here, though they do not seem to belong to the same category as the last. There is a certain kind of beauty of natural scenery, the taste for which is perhaps modern, and which may be called expressive. A view catches the eye as interesting, suggestive; it is not so much a symmetrical whole as a fragment or glimpse suggestive of a symmetrical whole which is not all seen. The analysis of this kind of attractiveness is well worth attempting.

When I am surveying a landscape, and call it as a whole beautiful, I do so because here as in every case of the beautiful there is a certain dualism, with part matching part. In the conventionally beautiful view there will probably be a certain degree of actual symmetry, one feature correctly balancing another. In the suggestive "bit" I do not see this actual symmetry; I see a glimpse which seems incomplete and suggests something more. Yet even taken alone it pleases me. Now the "bit" has features in itself, though they do not seem to match one another; taken together, they might match some other feature not now visible: as it is they have to do duty as the mutually ill-adapted parts of one whole. I accept these, however, as sufficient equivalents for one another; as symmetrical, though they do not really balance; as displaying true sameness in difference, though they lack sameness. And why?

If the view is in a painting, and I am a spectator of it, I have no hesitation in giving my answer. I am ready to believe, in such a case, that there must be a symmetry or sameness in the features, not perceived by me but perceived by the artist, which led him to select just that portion of the view for his picture. Belief in an unperceived symmetry or balance or relevance, on the ground that the artist, our fellow-man, must surely have perceived it since he so composed his work, has, I am convinced, enormous influence on our æsthetic appreciations in art.

But as to the artist himself; what leads *him* to select one fragmentary view and reject another? Does he in truth perceive a symmetry where we do not? On this difficult question I can but make suggestions. Possibly the artist, where he pre-eminently succeeds in such compositions, does violence to symmetry only in some definite and distinct manner, marking off his unsymmetry and making it specific; perhaps introducing copious subordinate symmetries, so that

it is the more easily submitted to. Perhaps also he is led to do violence to conventional symmetry just in so far as he has a natural veneration for the power to make the insufficient suffice in other departments of life; or according to his natural love of freedom and revolt. Let us see what evidence can be had elsewhere.

It is strange to find the same analysis applying again in other very different regions of æsthetic. Take the beauty of the human face. There is a beauty of a faultlessly symmetrical kind; there is also a beauty which we describe as depending on individuality and expressiveness. What is this expressiveness? If you could define what it expresses it would not be there; it depends on the hiddenness of its own meaning; if you could fully sum it up by saying that it expressed gentleness, or endurance, or trust, or any other quality, you would not feel in it the æsthetic charm you do feel. What is the clue?

I would suggest that this case is like that of the artist doing violence to strict symmetry in some distinct specific manner and thereby gaining an easy acceptance. When in a composition, or in a face, there is what may be called a perverse insistence on some one subtle defiance of symmetry, or a unity and singleness in the character of the contradictions; then, as when among the vague outlines of a stone you see lines that show insistence, uniformity, and say that some primitive human beings was once at work on that stone with a purpose or meaning; so we feel that the face must have a meaning, and mean a character; *one* character; it is too perversely thus, not to have a reason behind its perversity. This account is in reality coincident with that given above of the beauty of a statue, though different phrases have been employed. I said of the statue: "We welcome the subtle human quality when it persists onwards into the contradictory medium of stone". Here I have two items: (1) human quality known in man; (2) human quality seen in stone; they are the same in spite of difference, and æsthetic quality, that is, beauty, is yielded. The same formulas may be applied even to the expressive face. In the face we have a contradictory variety of factors; the features are irregular and unsymmetrical. Yet these unsymmetrical factors are accepted as expressive, relevant, symmetrical with an unseen symmetry. Thus there is a sameness in spite of contradiction, for one quality (the hidden meaning or symmetry) persists onwards from one factor to another, and thus æsthetic quality, or beauty, is yielded.

I wish to say distinctly that I offer this analysis as a mere attempt to move in the right direction, though the goal may be distant. If my formulas were applied concretely to the eyes, nose, mouth and chin of some particular expressive face, they might seem like a pick-axe offered for use in watch-making. But they may none the less be a rough outline of the truth.

The timbre of certain musical instruments and of certain voices seems to be a case curiously illustrative of this whole subject. Compare the timbre of the oboe and the flute. The latter we should probably call full and round; the oboe's quality might be described as harsh, or as pinched and strained. Yet the æsthetic rank of the oboe in the orchestra would be generally considered as higher than that of the flute. The flute is sweet but common-place; the oboe means pathos and depth. And to my mind there is an inkling of similarity between this case and that of the expressive but irregular face, or the interesting but incomplete view, or the line that is the better for being too short. The oboe's timbre may perhaps be said to sound as though some of the tone had been withdrawn: as though the cord had had one of its strands taken away through all its length. (Can physicists say whether there is any foundation in fact for this impression?) Thus the oboe has a pathetic suggestiveness; it is expressive.

But is this to be accounted for on the same theory as that suggested for the expressive face? Different as the instances seem, they are fundamentally similar. And here another very beautiful class of æsthetic material may be referred to as illustrating both. The oboe's timbre may be grouped together with the short fragments of lost ancient poetry.

Have not the fragments of Sappho or Ennius a distinct æsthetic charm through their very fragmentariness? Or when Tennyson's "Morte d'Arthur" is presented as a fragment, has it not a glamour which it loses in the completed idyll? And the reason seems to be that we are willing to credit the fragment with the splendour that would have belonged to the completed poem, and that imagination endows this non-existent poem with ideally supreme splendour: thus in our former phrase, the quality of ideally supreme splendour persists onwards from the one factor, the imagined poem, to the other, the fragment, in spite of the antagonistic difference, *viz.*, fragmentariness, which so cruelly hampers the forlorn fragment: just as the quality of nine-syllabledness persists onwards into the five-syllabled line. And

similarly may we say that the ideally glorious unheard tone of which we dream that the oboe's timbre is an inadequate representative, persists onwards in spite of antagonism into the defective actual tone; and that the one unknown quality persists onwards through the features of the unsymmetrical face in spite of their unsymmetry, that is, resistance to oneness of meaning?

My aim, it will be seen, is to bring every kind of beauty of expressiveness under the very same formula, sameness in difference, which applies to strictly formal beauty. The beauty of musical harmonies seems to me on analysis to lead to the same result; but the subject would perhaps be better treated by itself. The æsthetic quality of an apt quotation—the rare literary flavour it disseminates—seems to be in reality another case of the same kind. The noble effect of Burke's quotations from Horace seems due to our sense of the persistence of quality from the one distant sphere right on to the other, in spite of the remoteness—the sphere of modern political life, and the sphere of ancient bygone poetry.

I wish now to indicate another line of thought that seems worth following out in connexion with the above.

Take these two philosophical topics, "æsthetic" and "cause". How do they stand in relation to one another—if there is a relation between them?

There is one marked distinction that disunites the two. There can be no consciousness, and therefore no æsthetic consciousness, without concurrences—parallel, co-existent modes of consciousness. Æsthetic is rooted in duality. On the other hand, cause is rooted in identity, that is unity: unity passing on into different forms indeed, but, *qua cause*, absolutely one. The genuine causal thread of antecedent . . consequent, as we must conceive it, must be infinitely thin; nay, it must be infinitely short; a mere atom; not admitting of variety. Hence, *in itself*, it could not admit of consciousness. What enables consciousness, or Ego, to awake is some concurrent datum introduced alongside of the first.

Æsthetic then may be said to be an affair of concurrences and not of causal processions or sequences. It is true that line follows line in poetry; but line does not cause line; and to the æsthetic consciousness the impression left by the previous line must be concurrent with the impression made by the next.

Now this contrast which I have attempted to indicate between causal sequences, and concurrences, in reality coincides with that which may be drawn between the laws of

nature and the original arrangement of the conditions of the universe. "Fire destroys life" represents a law or laws of nature. "That friend of mine was burnt to death" is felt to be a fact that traces its ancestry not merely to laws of nature, but to the particular arrangement in which those laws were first set going relatively to each other. It is true that we cannot but believe that this relative arrangement, or the actual form that the universe has taken, was *caused:* that is, arose in obedience to *law.* It is also true that we must believe that all natural laws arose out of, and are forms of, that one ultimate cause or law. But at the same time our minds cannot but draw a marked distinction between the array of "natural" laws, or causes, and the one ultimate law, or cause. We conceive of the former as in some sense comprehensible; of the latter as, to our human intellects, incomprehensible. We can believe that "arsenic poisons" represents a law, cause, or identity, which we could grasp: we can imagine that with senses indefinitely extended we should perceive that at the heart of "arsenic poisons" there lurks a palpable truism. But "the universe is thus" represents an ultimate law, cause, or identity that transcends our powers of comprehension.

Now under which head are we to place those concurrences which are the necessary conditions for æsthetic consciousness? are the main factors in them natural laws, or the one ultimate law which arranged the primary conditions as it did?

I seem to feel a far closer kinship between the concurrences that yield æsthetic consciousness, and the primary arrangement of the universe, than between these concurrences and natural laws. I do not think that this is so obviously true, though it is true, in the case of natural beauty: Wordsworth's "thoughts that lie too deep for tears" do not come to every one at the sight of the meanest flower that blows. But it seems far more evidently true of the beauty of art. Art constantly selects features to group together which visibly lie too far apart for any chain of natural causation to link them all together; to get a common ancestor you must go back to the original inscrutable constitution of the universe. This may indeed be said of any group of phenomena, whether chosen by art or not. But the tendency of art is to leave natural causes in their native confusion and obscurity, and to thrust on the spectator's attention the one great absorbing topic, the mysterious unknown meaning of, or reason for, the All being as it is. Take Tennyson's "Break, break, break"—as a whole,

and ask what common relevance justifies the connecting of the items in this sentence—

> Break, break, break
> At the foot of thy crags, O Sea!
> But the tender grace of a day that is dead
> Can never come back to me.

Why the "but"? What makes the utterance rational except a reference to the inscrutable established constitution of the universe?

And a question of great moment here arises. What is the attitude of art in face of this great mystery? For according to the attitude will be, to a large extent, the good of art as a factor in life and character.

The answer, if one endeavours to catch the drift of art at its highest, seems to be that its influence in this matter tends to be salutary. The handling of pain, in art, is by the very process that art follows made indirectly significant. Art may be imagined as speaking to us in the following words: "You see these phenomena, evil and good, which occurred, or the like of which occurred, in the real world. They are samples of the whole cosmos: they bring you face to face with the great problem; the problem of evil. But I place them before you in such a way that the evil is neutralised to you while you look, for it combines with the good to make a perfect whole. In my art-work you would prefer to have the presentation of evil rather than not? You could not dispense with it? Then in this fragment of an art-cosmos the problem of evil vanishes. How it vanishes in the real cosmos I cannot tell; I do but present *a* cosmos which can so deal with these phenomena, evil and good, as to leave no problem of evil."

There is a certain misconception which must be guarded against, and which may be mentioned parenthetically here. I have implied that "beauty" and "cause" are alien subjects. It may be objected that the scientific discovery of a cause or a natural law may arouse an æsthetic feeling; that the proof of a theorem is often called beautiful; and the like. I would reply that such cases seem to me perfect examples of what I have said above. The theorem of Archimedes as to the sphere and the cylinder is a good instance. Assuming, though I am no mathematician, that this may be called beautiful, I would express the reason why we call it so as follows. In a region where the quality of incommensurability seemed to be paramount, *viz.*, as between the apparently incommensurable sphere and cylinder,

the opposite quality of commensurability is found nevertheless to hold its own with complete strength. Thus we have, as usual, two items: (1) the apparent incommensurability of sphere and cylinder, (2) their proved commensurability.

These two items, though so highly opposed to each other, are yet found to coincide, and to be in fact one; for where the first is, there the second is. Thus as before we have unity subsisting in spite of antagonistic variety.

In this way natural law, or cause, like various other qualities, can supply material for the æsthetic sense, by subsisting in spite of antagonism: though any one cause as strictly conceived, looked at *alone and in itself*, is *nil* to the æsthetic sense.

Recurring to the topic of the ultimate hidden meaning of the universe, the question seems worth suggesting whether it is the ascending path for Æsthetic to come to depend more and more on the sense that each of the dual items implies and represents this one hidden meaning, and has *that* great bond of sameness with the other. Rudimentary æsthetic depends on mere sense-sameness. As æsthetic attains greater development the link of sameness in difference can be, not merely sensation, but also meaning; a relevance deeper than bare sense. And among all meanings the supreme is the meaning of the universe: why it is what it is. If then æsthetic came to rest more and more on that one supreme link of sameness, the great unity of meaning which we conceive to subsist in all phenomena, it would perhaps thereby rise to its highest. To give an illustration: one of the proverbial triplets attributed to the ancient Welsh poet Llywarch Hen runs thus—as translated in Skene's edition:—

> Rain without, near is the shelter,
> The furze yellow; the cow-parsnip withered and dry;
> God the Creator! Why hast thou made a coward?

These lines have a certain mystic effectiveness even taken alone: and to say so is equivalent to saying that we believe that there is a common hidden relevance in the apparently irrelevant statements. And the only relevance one can conceive is that the two sets of phenomena, the visible surroundings and the existence of cowards, though so different, are the same in that they alike imply as their necessary condition the sum total of all things. Its scope and meaning, hidden in each, is in some way specially well expressed by the concurrence of the two. Now here, I confess, the "beauty" is to me totally apart from immediate

perception, and is entirely matter of belief; because I am willing to infer that it is there. But I would suggest that the best future of æsthetic may lie in a gradual transference of the grounds of such beauty from the region of inference to that of immediate perception. In the case of music some such transference has occurred. Modern harmonies sound beautiful only in virtue of our, by this time instinctive, acceptance of the scale as the basis of our music; a basis partly conventional. And if it be asked what is to be our protection against accepting extravagances and absurdities in art at the bidding of the artist, it may be suggested that there are phenomena which taken together do in very truth represent the one ultimate meaning better than other phenomena would do; that the highest artistic faculty consists in the power of recognising these phenomena; and that the human race have so far the power of recognising the same phenomena instinctively, that the artists who select them are sooner or later felt to be supreme.

I have been speaking of the beauty of "meaning". Previously I described such beauty as arising when quality holds its own in an "antagonistic medium". It is interesting to examine these very different phrases side by side.

Let us inquire a little further into the "antagonism"; our previous instances of it were the adverse medium of stone in which the quality of humanness holds its own, and the adverse medium of five-syllabled-ness in which nine-syllabled-ness was still present. Does a similar antagonism occur in every instance of beauty, whether expressive or merely formal?

Yes; and there is no difficulty in seeing that it is so. In a beautiful geometrical figure there are, for each line that stands correctly drawn, an infinite number of incorrect directions that it might have taken. In spite of infinite possibilities of error swarming round it, the line takes the one infinitesimal right course. Here, too, we have Gautier's "forme rebelle," out of which the beautiful figure forces its way, in the immense number of difficult conditions to be fulfilled; for it is necessary that every one of the infinitely numerous parts of every line should be in its one correct position, and not in any of the infinitely numerous incorrect adjacent positions.

Turn now to the beauty of expression. In it we have factors that offer more or less or perhaps very little actual sameness in difference, and an indefinite degree of potential or implied or believed-in sameness in difference. Now here, too, we have a fulfilment of conditions; the items are (we

see or believe) just what they needed to be. But the difficulty of fulfilling the conditions is no longer the same as in the case of the geometrical figure. In that case it was difficult, but not impossible, for the conditions to be fulfilled. In the region of expressive beauty we have difficulties ranging up through an ascending scale and often reaching *impossibility*, as to the fulfilment of the conditions. The poet gives me five-syllabled-ness to balance nine-syllabled-ness; they match; they are the same, that is, some hidden quality fulfils the *impossible* condition of being nine and yet five. And this fulfilling of adverse or even impossible conditions is possible if the items may take refuge in what they imply; if potential or inferred sameness in difference, as well as what is actual, may count as making for beauty. To recur to a former instance, it seems impossible that bereavement and the breaking of waves should do mutual duty like the two symmetrical sides of a Gothic arch; you might as well prop one half of the arch against a tree and call that beautiful. But let bereavement and the breaking of waves each imply the All that each does imply, and there is common ground between them. One great quality, one ultimate meaning, persists in spite of the (to us) inscrutable antagonism, from one to the other.

But, once more, *why* is beauty of these highest kinds acceptable? May we say that we believe that an inconceivably great extension of our faculties would enable us actually to *perceive* that the breaking of waves and bereavement are perfectly symmetrical phenomena, presenting a "beautiful" sameness in difference; and that just as *actual* sameness in difference is acceptable because Ego is yielded thence with a minimum of thwarting, so *potential* sameness in difference is acceptable because there is the utmost yield thence of potential unthwarted Ego?

The problem of acceptableness of beauty may be dealt with by psychology as forming part of the general subject of pleasure-pain. Some interesting lines of thought seem suggested if we apply to the case of æsthetic pleasure Mr. Stout's formula that pleasure accompanies a re-establishment of disturbed equilibrium (*Analytic Psychology*, vol. i.). Take a simple type of symmetrical beauty, *e.g.*, a geometrical figure. In æsthetic pleasurableness of this kind, where is there a re-establishment of disturbed equilibrium, or where, again, in a more complex case such as the æsthetic effect of Archimedes' theorem?

In answer, let us remember what seemed to be the essence of æsthetic effect, *viz.*, quality holding its own in face of

"difficulty" or contradiction. Now quality of this kind requires, in order that it may be perceived, at least two items, each of which exemplifies it, and each of which is concurrently present. A geometrical design would not bring home to us the sameness that persists from one half of it to the other unless both halves were before us. If you cut away a geometrical pattern till there were no two similar portions left, you would leave no trace of æsthetic effect. A single dog will, it is true, recall the familiar quality of caninity without the presence of a second dog; but such a quality does not, to our accustomed eyes, seem to have to overcome any "opposition" each time it reappears. But when, as with all æsthetic quality, such opposition has to be overcome, at least two items must be present. And when they are present, it seems that there does indeed occur what may well be described as a continuous re-establishment of disturbed equilibrium. There may be said to be an enforced hovering of the attention backwards and forwards from one item to the other; neither alone will make manifest the rare and precarious quality that is felt to be before us; each item seems to tilt the attention over to the other.

And the same may be said in the case of such beauty as that of the five-syllabled line or the theorem. Take the latter instance. Here, too, there is a highly precarious quality before us, the quality of (apparent) incommensurability which is nevertheless commensurability. To constitute this unique quality we emphatically must have both of its representative items present; and they are in the given instance both present, coinciding. And the two irreconcilables, meeting in a unity, seem to keep the consciousness gently rocking backwards and forwards; to dwell on either by itself disturbs equilibrium; the complex oneness of the two, to be realised, requires a constant transition of consciousness from one to the other.

These rather desultory remarks, which I here bring to a close, pretend to no sort of completeness; I do not even claim that all my suggestions are mutually consistent. They are suggestions and no more.

V.—FIXITY OF CHARACTER: ITS ETHICAL INTERPRETATION.

By J. D. Logan.

In this day of destructive philosophical criticism one fails to wonder at the ever-increasing metamorphoses of the 'central problem' of Ethics. Indeed we are still seeking the central problem itself. Now we are told that the problem of Freedom, for instance, has disappeared, and "exists only for a theological or scholastic philosophy". And now it is asserted that "after all Free-will is not the highest Freedom". And now another holds that there may be Freedom (of Self-initiative) "whether there be any choice between alternatives or not"; and that Responsibility is successfully gaining recognition as the central problem of Ethics. Finally, the Absolutist submits that Freedom, if it means anything, must imply that I, *at any time* in my life, character and environment notwithstanding, can choose the "law of death" equally with the "law of life": or that, on the other hand, if Freedom does not imply this, it must be at best a disguised Determinism.

Just here—in the position of one who is a Freedomist, but not of the Absolutist type—appears the paradox, dressing, as it is said, Determinism in the garb of Freedom. Fixity of character, continuity of life, we are told, *mean* this. And can we escape Prof. James Seth's conclusion? "The moral crises of our lives are few," he says, "and soon over; but it seems as if all the strength of our spirit gathered itself up for such supreme efforts, and as if what follows in the long-drawn years were but *their* consequence."[1] Here is a hint of universal causation: character moves along lines fixed by a single act, a single choice: the 'crisis' *means* this. But, on the other hand, we are accustomed to think that an "evil character, however evil, being the formation of

[1] Jas. Seth, *A Study of Ethical Principles*, p. 54.

Will, might be *un*formed and *re*formed by the same power";[1] and that character is but a "garment in which the spirit clothes itself, a garment which clings tightly to it, but which it need not wear eternally".[2]

Well, just there is the situation, dilemmatic enough, in our feeling that the reality and the deeper meaning of moral experience demand, on the side of goodness at any rate, Fixity of Character. On the side of goodness we vehemently insist upon our ethical paradox of Freedom passing away into Spontaneity. Responsibility gains its full meaning, and Moral Progress seems guaranteed, if only Freedom and Duty, Fixity and Spontaneity, are their correlates and conditions. "The condition and attribute of the highest life, we readily admit, is not to hold oneself aloof from good and evil, and 'free' to choose between them." And the Human Spirit feels nothing more or less than outraged by the Nature of Things of which it is an integral part, if its progress in the good life does not mean its "perfect and established union with the higher and the good". And yet all this seems but the creation of our own prejudices: as if we had some *interest* in proving that the saint is not or cannot be potentially the sinner. For while we conceive the possibility of the final redemption of a man "however evil," we cannot, on the other hand, conceive—or, at least, we refuse to conceive—the possibility of a saint's choosing through a free act of Will the "law of death". That is to say, "holiness" means the negation of the possibility of (a return to) evil, whereas the progress in evil may not mean—so we think!—the absolute negation of the possibility of a future good life. In the evil life the character *is* but a garment which the spirit need not wear eternally. But can we conceive the "good man"—Plato's and Aristotle's "good man" —as forsaking the higher life for the life of sin? There is for the evil man, we hold, the possibility of a change from death to life. But how can it be possible—our spirits absolutely refuse to think its possibility; the Universe, the Eternal Reality cannot see its own put to confusion!—well, how can it be possible for him who communes with God to change that life for death, "dark death"?

> I have seen higher, holier things than these,
> And therefore must to these refuse my heart.[3]

Can it be, then, that the Universe is, after all, relentless, merciless, unjust to its own? or is our attitude here nothing more than mere prejudice? I do most sincerely doubt it.

[1] *Op. cit.*, p. 57. [2] *Ibid.*, *in loco*. [3] A. H. Clough, τὸ καλόν.

Responsibility and Moral Progress gain a deeper meaning, if only Fixity or Spontaneity, Freedom and Duty be their correlates and conditions. And I doubt that absolute Fixity of Character, as regards *either* good *or* evil, "is disproved by that indubitable fact of moral experience which Plato, equally with the Christian theologian, calls 'conversion'".[1] Nay, rather, as I think, "Conversion," whether Platonic or Christian, implies, when real, the impossibility of its own negation,—of a "relapse" into barrenness and death.

But there, now, is the Absolutist maintaining your Freedom to be but a disguised Determinism; Character, as it is said, having destroyed the "power of free and incalculable initiation in the Self". Our answer was at least hinted above, in submitting that while Freedom does still remain, Fixity itself gives a deeper meaning to Responsibility and Moral Progress. The difficulty is of the Absolutist's own making, in misconceiving the nature of both Freedom and Fixity,—in supposing this power of free and incalculable initiation in the Self to mean or imply at any time, even when growth in character is granted, the possibility of *antithesis* and *revolt* as well as of *synthesis* and *continuity*, in the matter of the relation of the new to the old, of Nature to Character; and consequently, in supposing, on the other hand, Fixity—conceived as Finality—to be the disproof of Freedom, *i.e.*, of Freedom as the Power of choosing alternatives, when, for that matter, as we shall hold, such an element in Freedom is really non-essential. We may contend that there is Fixity of Character only as regards *either* good *or* bad; but that there can never be such a thing as Finality of Character,—as regards *growth* in virtue or vice. I may go from bad to worse, from good to better; I may not always go from bad to good, and from good to bad. Infinite possibilities in the direction of either good or evil, not infinite fluctuations,—such infinite possibility means just the power of free and incalculable self-initiation!

The fundamental error of the Freedomists consists, as I think, in their insisting too much upon the necessity of the possibility of choice of alternatives as the essential element and condition of Freedom. We do better to insist that though the possibility of choice of alternatives admits an incalculable element, an element of contingency is yet non-essential; while, on the other hand, Freedom of Initiation, as meaning an act of inner constitution and implying simply

[1] Jas. Seth, *op. cit.*, p. 57.

non-compulsion *ab extra* is fundamental and essential. Nay, non-compulsion *ab extra*, as the prius, is, therefore, the condition of the possibility of contingency; and so far the power of free and incalculable self-initiation must define itself, not in the direction of contingency, but in that of non-compulsion *ab extra*. The possibility of choice of alternatives may or may not be an element in Freedom. But the essential or necessary element is simply the full consciousness of possibility,—of ideal future or end, whether that be contrasted *dynamically* with another end or not.

Freedom lies in that situation precisely, whereas it is said, "man is not, like the animal, merely 'aware' of tendencies that sway him: he 'knows' them and whither they lead".[1] The significance of this knowledge of the *meaning* of one's impulsive tendencies, etc., lies in its making the impulsive tendencies one's *own* motive, and in thus differentiating the *kind* of motivation of the Will. The question of Freedom, then, narrows itself down to the question of the *kinds* of motivation, to the possibility of motivation of the Will *ab intra*. The determination of the Will being admitted, the question is as to the source and kind of determination possible. Now reflex and ideo-motor action exhibit mechanical causation from beginning of process to its end. Unless, therefore, the causal chain be broken, so as to give the Self opportunity to read aright the 'situation,' to 'know' one's tendencies and whither they lead,—unless, that is, an appreciable or properly Self-conscious element becomes part of the process—the causal chain must remain mechanical throughout: the motivation remaining external and efficient simply, the case for Freedom must be given up.

But now, as a matter of psychological fact,[2] the process of volition exhibits three stages: periods of inhibition, of deliberation, and of decision or motivation. The mechanically causal chain, in all the higher intellectual activities, is broken just at the point of inhibition; and this moment of inhibition offers opportunity for reflexion and the conception of the meaning of the situation, the conception of an ideal future or end, as having an appreciable quality or value, and which may become one's own. And just here the inclination, propension, or what not, that would immediately seek its own end instinctively or by pure impulsion, loses its character of mere inclination or impulsion, is referred con-

[1] J. Seth, *op. cit.*, p. 49.

[2] See James's *Principles of Psychology*, vol. ii., cap. 26; Höffding's *Outlines of Psychology*, cap. vii., English trans.; Hyslop, *Phil. Review*, vol. i., 4, July, 1892.

sciously to the future, and becomes now the *idea of* some end or future good. And the causal nexus between stimulus and volition having been thus broken by inhibition and again qualified or modified by the conception or idea of an end or future good, "the motive to action must come from the ideational centre, and may or may not conform with the original inclination. It must be observed, however, that this motive is not contributed by the external impression or the sensation, although they are instrumental in its occurrence, but is an *original* and *creative product* of the *ideational centre*, so far as its *form* and *matter* are concerned. This motive is an efficient cause precisely as any motive may be supposed to be, . . . but its efficient power does not appear until it first occurs as a final cause. . . . The end is a pure contribution of the ideational centre, and as the efficiency of this end as a motive awaits ideational activity to decide what shall be the final cause or *ratio agendi*, the cause of the volition comes wholly from within."[1] *Ideas of ends* being, then, so far as their own form and matter go, products of the ideational centre or Reflective Self, these ideational motives, as being, for that matter, both final and efficient causes, differ in *kind* and *source* from external causation. They are the products of Reason, and not of external stimulus: they are idealistic and teleological, and are, therefore, absolutely different in nature from the mechanical causation of external motives, and of reflex and ideo-motor action. And hence the question of Freedom is not a question as to the existence or non-existence of a nexus between motive and volition, but altogether as to the kind and source of the motivation. Just "to sustain a representation, to think, is, in short, the only moral act".[2] To sustain a representation is enough to guarantee non-compulsion *ab extra*, *spiritual* motivation. Freedom of the Will really and fundamentally consists in sustaining a representation,—in the spiritual- or self-initiation of a process, whether there be choice of alternatives or not. And "if at any time we are able to choose otherwise than we do, the fact *proves* our Freedom, but it is not the *condition* of it. But it is the condition of our Responsibility."[3]

Let the present Form of the Will be, therefore, what it may, the product of experience, of heredity, or, possibly, a new creation,—and though the Form of the Will determines its Motive, and the Motive, in turn, the Will, and the agent thus seems to have no choice, nay, though man himself is

[1] J. Hyslop, *op. cit. sup.*, p. 385. [2] James, *op. cit. sup.*, ii., p. 566.
[3] Hyslop, *op. cit. sup.*, p. 388.

within a world of physical causation, yet the whole volitional and moral process, as regards its form and matter, is an essentially *spiritual* process, is still *within* the *spiritual* or *free* circle of his own being. That very present Form of the Will itself may, therefore, change or develop in the appreciable or significant presence of a consciously conceived Ideal. It is precisely this free conception of an Ideal or conscious reference of an end to the Self, as its own possibility or future Selfhood, that leaves the Self with the free and incalculable power of Self-initiation; and this is Freedom in the only sane and significant sense. For this power or privilege of Self-initiation, as implying the inhibition of the mechanical process, means or leaves room for a 'new beginning,' idealistic and teleological in its reference. Without the possibility of this idealistic and teleological reference our Life would be as Nature's, under the negative and external bondage of constraint, or "according to law": but with this possibility man's proper and characteristic Life is a "life 'according to the representation of law,' or in free obedience to a consciously conceived Ideal".[1]

Freedom now, in its proper significance, turns out to be an essential or inseparable aspect or function of Selfhood. The ethical interpretation of Freedom and of Fixity, as distinguished from Finality, of Character is now seen to be an interpretation of Character as properly a Form of Will, and of Freedom as being necessarily involved in the Nature of Selfhood, in its Constitution or Self-initiative Function, or Personality. Our ethical ultimates are thus the Self and the Form of the Will to Live: they guarantee both Freedom and Fixity or inevitableness of Character. Altogether, therefore, we must interpret Effort and Spontaneity, Nature and Character with reference to the Self or the Will to Live: if, that is, we are to have a solution of the problem as to whether the relation of the new to the old may always be a relation of antithesis and revolt as well as of synthesis and continuity: and whether the psychological impossibility of the former can in any significant sense be said to be really a loss of Freedom.

Animals and things have merely a *first* "nature," a definite fixed actuality, just because that nature has been *finally* determined for them *ab extra*. Any living organism that may have a *second* "nature" must originally be an indeterminate manifold of potentialities (*δυνάμεις τῶν ἐναντίων*). There arises, therefore, the possibility of this second

[1] J. Seth, *op. cit. sup.*, p. 349.

nature, provided the indeterminate manifold may be evolved *ab intra*. The energising principle, the principle initiating the process, must make for "somewhat". It is for the initiating principle to say that the potentiality shall become this or that. But potentiality is not characterised by pure indifference: it has a certain individuality or character of its own. It is the function of the active principle to make potentiality *either* this *or* that, but of the latter to say *in what way* it shall be this or that. This, I take it, is merely a restatement of the Aristotelian distinction between Persons and Things.[1]

Our conception of the Moral Person involves, therefore, the existence in unity of the Self as Attuent[2] (potentiality) and of the Self as Rational (initiating principle). And the function of Personality, in its moral reference, is nicely expressed for us in Prof. Laurie's formula, as the "realisation *of* Self (attuent) *by* Self (rational)".[3] This formula presents to us a conception of the *living* Personality. Aristotle had said that "virtue comes neither by nature (*φύσει*) nor against nature (*πάρα φύσιν*),"[4] meaning thereby that virtue or character is an active construction by Will from materials indifferent to virtue or vice generally. Now while the attuent Self is one thing, and the active Self another, the "living" Personality is the *act* of functioning at the heart of morality,—the active *construction* of Character from the plastic potentiality. Personality is not to be conceived as a principle or an entity, but as essentially an act,—of conscious, deliberate, active identification of Self with good or evil. But this is no mere act. It is fundamentally *constitutive*. I am a "proper" Person when out of a given potentiality, inner and outer, Will creates a "character formed after the pattern of the heavenly beauty". And this is the problem of Will: which, however, would remain for ever a mere problem, were not this constitutive act at the same time *dynamic*. The whole significance of Life, Freedom, Responsibility, Individuality and Selfhood is bound up in my performing my proper function or lot,—in the quality of the Will to Live. I will to be this or that, *i.e.*, I consciously conceive this or that as my Ideal, and Personality becomes at once constitutive, dynamic, inevitable,—

> I am named and known by that moment's feat.[5]

[1] Aristotle, *Eth. Nic.*, bk. ii.
[2] S. S. Laurie. *Ethica or the Ethics of Reason*, cap. iv., p. 20 *passim*.
[3] Laurie, *op. cit.*, p. 19. [4] *Ethic. Nic.*, *in loco cit. sup.*
[5] R. Browning, "By the Fireside".

Now in the process of any potentiality to its actuality there is at all stages of its progress a constant positive reference to the principle that initiated the process. There must be no violent separation of possibility and actuality, just because the latter is but the definite and complete expression of the potentiality *and* the energising principle *together* working towards their final end. But, again, from the fact that man's first nature is but a "potentiality of opposites," and that Personality is constitutive and dynamic, there arises for man the possibility of a second or higher nature, a definite fixed actuality, as regards *either* good *or* bad, evolved by a process of Choices or Self-initiations,—and even by a single choice. There's the significance of Responsibility! The question is, therefore, not as Janet has it paradoxically, "Are we free to be free?"—but, "Are we fundamentally and distinctively Persons that function, as in Self-initiation, towards the creation of a fixed definite actuality, and fixed merely as regards the direction or general Form of Will?"

Now in the moral life this definite fixed actuality which we have named Character, is to be conceived merely as a Form of Will, and as in itself, again, dynamic, inevitable, spontaneous. In this "spontaneity" of the moral life Freedom of initiation is always implied, but at this stage the accent must be properly on the spontaneity, as being *now* the new *Form* of the ideational centre or initiating principle. The Character or Form of the Will is, however, always less than the Self which *has* the character. But it is just because the Self is always more than any empirical Form of the Will, nay, just because the Form of the Will itself is what it is, that true moral progress is assured and that I may not always, therefore, become something to-day irrespective of what I was yesterday, become, *i.e.*, now good, and now evil. It is just because, on the one hand, the self is more than its character, and because, on the other hand, the present Form of the Will, as it were, "informs" the mind of the Self, that the Self *can* "transcend and judge his own character, that genuine moral Freedom and moral Responsibility become possible and actual".[1] The fact of Personality, and with it Freedom, as we understand them, are thus most clearly exhibited in Fixity of Character, since this implies an act of "Constitution,"—of conscious and complete self-surrender to good or evil. This active identification has created a second or higher nature, has placed the moral life under a

[1] Prof. Upton; quoted by Prof. Seth, *op. cit.*, p. 381, from *New World*, i., 152.

higher category. But the 'naturalness' of the higher life is in nowise to be construed in terms of "determinism". For, so I like to put it, spontaneity, as, in a sense, "informing" the mind of the Self as to the inadequacy of its present character, and certainly, again, defining the direction of possibility, is, in virtue of such functions, as it were, the "regulative" aspect of Personality; while Freedom, on the other hand, is its "constitutive" aspect. But these, it must be, are but two and *inseparable* aspects of the Moral Person, or the Will to Live. And now Freedom is proper, it shall be, to the nature of Personality · is the prerogative or birthright of the Moral Person!

We shall therefore interpret Fixity of Character, Spontaneity of moral life, as but the absolute negation of the original "potentiality of opposites". And, again, just because this second or higher nature, the latest Form of the Will to Live, has become precisely what it is by a definite process, we cannot interpret it in terms of determinism. For the fact that self-initiations or choices "crystallise" and give "fixity" to character, in no way exemplifies a *loss* of Will power; but rather the Will's full possession of pure and definite quality, as being now really a *Will*. Is it not, at least, a significant fact that "the strongest and deepest natures are the saints and the sinners"?[1] And surely that which works "without a conscience or an aim" is much less a Will than that which manifests strength and fixed purpose! There were infinite possibilities of either good or bad; there cannot always be the possibility of infinite fluctuations without Moral Freedom and Moral Responsibility losing their meaning. Towards Fixity of Character, or spontaneity of moral life, as we now understand them, the energy of the Self has been working. Its Self-initiation *means* this at last. And if it did not mean this, not even proper Self-initiation—there's the significance of Fixity, Spontaneity, as "in forming" the mind of the Self with reference to Ideals and significant Values, as, in short, the "regulative" aspect of Personality in defining the direction of possibility!—not even proper Self-initiation could be guaranteed; or, at least, the Self-initiation would be altogether superfluous, nay, even frustrating so far as moral *progress* is concerned, just because it *guarantees* nothing. But that Self-initiation should guarantee a newer Form of Will, and this in turn guarantee proper Self-initiation,—this seems to me to give Responsibility a lurid meaning. And

[1] J. Seth, *op. cit. sup.*, p. 56.

even if we have some interest in proving the saint not to be potentially the sinner, such prejudice has a sufficient *raison d'être*, when it is seen to be but the expression of the deeper nature of the moral needs of mankind,—to have, as I think, high psychological and ethical warrant.

We have been slow, perhaps, to see that Self-initiation or choice perpetuates itself: that the Form of the Will is ever the Child of Freedom, and perpetually owns its parentage; and that the moral movement, with its presuppositions, the constitutive and regulative aspects of Personality, the Self and the Will to Live,—the entire moral process is, as such, an essentially spiritual process, is *within* the free or *spiritual* circle of one's own being. Well, there's the point of the whole argument: If we conceive Personality as the "synthetic activity" at the heart of morality, with its two and inseparable aspects, constitutive and regulative, then *Freedom, as belonging to its constitutive aspect, still remains; the Form of the Will to Live, as regulative, has simply made its possibility its own.*

What we should contend for, then, is not a Freedom that is "for ever" choosing between good and evil; not even "Freedom on the whole"; but rather for Freedom—as an aspect of Personality—to initiate a set of correspondences, to actively identify oneself with and develop a certain definite line of conduct, to live "'according to the representation of law' or in free obedience to a consciously conceived Ideal".

Either, therefore, we must hold that both saint and sinner are free at any moment to choose the "law of death" equally with the "law of life," no matter how developed in either direction their respective characters may be; or that choices "crystallise" and character takes, as it were, the finality or fixity of a creation. But we have repudiated the Absolutist's Freedom as being *prima facie* superfluous and unmeaningful. Shall we not, then, hold that there are "moral crises" in our lives when our spirits make or must make supreme efforts, and that what follows ever after *is* their consequence? A lurid meaning for Responsibility surely! "Every act is *implicitly* a case of such moral faithfulness or unfaithfulness."[1] And herein lies the tragedy of life: that by active identification of Self with evil, men may and do sell beyond redemption their "high human birthright".

[1] J. Seth, *op. cit. sup.*, p. 54.

VI.—DISCUSSIONS.

ARISTOTLE'S EXPLANATION OF ΑΚΡΑΣΙΑ.

THE interpretation which Mr. W. H. Fairbrother, in his interesting article on "Aristotle's Theory of Incontinence" in the July number of MIND (see especially pp. 364-7), has put upon *Eth. Nic.*, vii., c. 3, is very ingenious; but it seems to me unnecessarily to strain the meaning of the passage by separating §§ 5-8 (1146 *b* 31-1147 *a* 24) from the remainder of the chapter (§§ 9-14, 1147 *a* 24-*b* 19). Mr. Fairbrother supposes §§ 5-8 to deal with "three ways of 'sinning against knowledge' *in a sense* (πως) which do not amount to Incontinence, though they look like it at first sight and are readily confused with it". Now I cannot find anything in the Greek to warrant this interpretation. Aristotle says nothing here about a "pseudo-incontinence". The word πως only occurs in §§ 5-8 as a qualification of ἔχειν ἐπιστήμην (§ 7, 1147 *a* 13): in § 10 (1147 *b* 1), which moreover Mr. Fairbrother takes to be part of Aristotle's account of his own theory of real ἀκρασία, the word πως qualifies ὑπὸ λόγου καὶ δόξης and not ἀκρατεύεσθαι. The obvious interpretation of the whole passage (§§ 5-11, 1146 *b* 31-1147 *b* 5) is to consider it (as Mr. Stewart, for instance, does in his commentary) as consisting of four explanations of the possibility of ἀκρασία—the last three are all introduced by the word ἔτι—all of them put forward by the writer himself as his own explanations of the same phenomenon and not supposed by him to be incompatible with one another. It is quite true that Aristotle often puts forward dialectically a series of proofs or refutations to which he does not commit himself, or not in equal degrees. But in the present case all the various explanations seem necessary to a complete theory of ἀκρασία: and it is noticeable that, in the summary or repetition of the argument in § 13, more obvious use is made of §§ 5-8 than of §§ 9-11, which alone Mr. Fairbrother holds to contain Aristotle's own theory.

Further I think it can be shown that the interpretation which finds Aristotle's theory in a combination of the four explanations (§§ 5-11) is (in spite of the objections of Mr. Cook Wilson and the doubts of Mr. Stewart) quite consistent with everything that is said elsewhere in the *Ethics* about responsibility and about the relation between knowledge and conduct. Aristotle, *or* a pupil

reproducing his views, *or* his editors working up his notes, or his pupils' notes—it does not matter for our present purpose which view be taken, or whether the question can be settled or not—Aristotle, as we may for convenience at least call the writer, who in any case is giving or developing Aristotelian doctrine, sees a difficulty in accepting the Socratic paradox that it is impossible to know what is right and yet do what is wrong. Nevertheless he sees that there is an important element of truth in it: this is finally admitted in 3, § 14: *καὶ ἔοικεν ὁ ἐζήτει Σωκράτης συμβαίνειν κ.τ.λ.* It is certainly an exaggeration to say, as Mr. Fairbrother does (p. 363), that "Aristotle sets himself to destroy the Socratic heresy". The partial agreement with Socrates at which Aristotle here arrives corresponds exactly with the partial agreement respecting the general relation between knowledge and conduct expressed in *Eth. Nic.*, vi., 13, § 3, 1144 *b* 18: *καὶ Σωκράτης τῇ μὲν ὀρθῶς ἐζήτει, τῇ δ' ἡμάρτανεν· ὅτι μὲν γὰρ φρονήσεις ᾤετο εἶναι πάσας τὰς ἀρετάς, ἡμάρτανεν, ὅτι δ' οὐκ ἄνευ φρονήσεως, καλῶς ἔλεγεν.* Indeed Aristotle sets out on his discussion of the difficulties about *ἀκρασία* with the hope of being able to accept in some sense all the principal current opinions on the subject (vii., 1, § 5, 1145 *b* 4, 5). He finds, however, that he cannot accept as sufficient the Platonic solution of the difficulty—the theory, *viz.* (vii., 2, § 3, 1145 *b* 31), that it is possible to act contrary to true opinion (*δόξα*) though not contrary to real knowledge (*ἐπιστήμη*). The difference between opinion and knowledge in the strict sense is, indeed, a genuine difference; but it is a difference in the content and grounds of belief and not in the conviction with which a person holds a belief. Some people—like Heraclitus, for instance (Prof. W. James would say "like Hegel")—hold the most fantastic theories—mere "opinions" of theirs, mere "dogmas"—with as much firmness of conviction as if they rested upon scientific proof (*c* 3, § 4).

Thus, finding the Platonic solution insufficient, Aristotle proceeds to face the problem himself. In the *first* place, the distinction between potential and actual knowing (a distinction already made by Plato in the *Theætetus*) helps us so far to understand how *ἀκρασία* is possible. A person can act against his knowledge of what he ought to do, if that knowledge be not at the time vividly present in his consciousness. He cannot act contrary to knowledge vividly present. *Secondly*, when we speak of "knowing," we are dealing with something complex, and we must (1) distinguish knowledge of the universal (the major premise of a practical syllogism) from knowledge of the particular (*i.e.*, the *singular* proposition which forms the minor premise of a practical syllogism), and (2) we must note that each of these premises is twofold, having a subjective and an objective reference.[1] Thus as an example of a practical major premise we may

[1] The complex nature of both premises (and therefore necessarily) of the conclusion of the practical syllogism is very clearly put in *De Anima*, iii., 11, 434 *a* 16, *seq.*, where the major premise is given as *ὅτι δεῖ τὸν*

take a medical "maxim" such as "A dry diet is good for all". This maxim is capable of analysis into two propositions:—

"(1) All men are benefited by dry food; (2) All dry food is good for men".

But if a practical application of this maxim is to be made, *i.e.*, a recognition that some particular act (a "this") is to be done by some particular person (an "I"), there must be two minor premises:—

"(1) I am a man; (2) This is dry food".

If either of these should be forgotten or left out of sight, the conclusion "*I* am benefited by *this*" will not be drawn. Only when this conclusion is in the mind *and* actively present in consciousness (*ἐνεργεῖ*) will conduct be affected. If, therefore, either of the minor premises is not in the mind or not actively present in consciousness (*ἀλλ' εἰ τόδε τοιόνδε, ἢ οὐκ ἔχει ἢ οὐκ ἐνέργει*), the practical conclusion fails to be drawn. Aristotle does not mean to regard this leaving out of sight of a particular as an "innocent mistake in application" (as Mr. Fairbrother supposes, p. 365). Ignorance of the particular excuses (iii., 1, § 15, 1110 *b* 30), but not carelessness about the particular or neglect of it. It is a pity that Mr. Stewart has illustrated vii., 3, § 6 by a case of ignorance (that sherry contains acid) and not by a case of the non-application of knowledge. Of course either ignorance of the minor premise or forgetfulness of it will prevent the conclusion being drawn; but it is the forgetfulness which is relevant to the explanation of *ἀκρασία*. In the practical syllogism of *Eth.*, vi., 7, § 7 (1141 *b* 18), ignorance of the minor premise is to the point: in vii., 3, § 6, ignoring or not applying the minor is the explanation of *ἀκρασία*. If genuine ignorance could be proved, the person would not be blamed. The *ἀκρατής* is not the person who does not *know* that too much alcohol intoxicates, but the person who does not attend to the fact that he is drinking too much. The practical syllogism, it may here be noted, is clearly to be understood in the light of what is said in *Eth. Nic.*, vi., 2, § 2, 1139 *a* 21: *ἔστι δ' ὅπερ ἐν διανοίᾳ κατάφασις καὶ ἀπόφασις, τοῦτ' ἐν ὀρέξει δίωξις καὶ φυγή*. Pursuit of this, avoidance of that are treated for convenience of analysis as equivalent to the propositions "This is good," "That is bad". Aristotle must not be understood to hold the absurd view that there is no syllogism unless the premises are clearly formulated in words. *Συλλογισμός* means simply "inference," "conclusion". Thus, wherever a principle (*ἀρχή* = major premise) can be found in a particular action, wherever at least actions are due to *conceptions* of ends (*cf. De An.*, iii., 11, 434 *a* 5, *seq.*), the action admits of analysis as a syllogism with a universal major and a singular minor, or as a series of syllogisms in which the conclusion is always more particular than the major premise.

τοιοῦτον τὸ τοιόνδε πράττειν, and the minor as *ὅτι τόδε τὸ νῦν τοιόνδε, κἀγω δὲ τοιόσδε*.

In the *third* place, when we speak of "having knowledge," we must distinguish between the mere presence of a proposition in consciousness and actual living grasp of a truth. In a state of drunkenness or of imperfect understanding of any kind [1] a man may have in his mind the words that express a practical rule for him; but they may be mere words to him and not part of his real self (*δεῖ γὰρ συμφῦναι*, § 8). He may say "Drink is a curse," or even "I have had enough now," while he goes on drinking. We are clearly justified in applying the distinction here drawn between verbal and real assent to both premises, major and minor, universal and singular. In § 13, 1147 *b* 9, Aristotle applies this distinction specially to the minor premise. Thus §§ 7 and 8 seem perfectly in place after § 6, which has introduced the reference to the two kinds of premises: they are no mere duplicate of § 5, but bring in a new distinction—a different kind of distinction between potentiality and actuality from that which is made in § 5. It may indeed be admitted that the whole passage would *seem* neater and more orderly, if §§ 7 and 8 had been placed immediately after § 5, so that the two similar sets of explanations came together. But (even apart from the advantage in having §§ 7, 8 after the distinction of premises in § 6) I do not think it could be inferred that Aristotle would have placed them so. If the canons of orderly exposition, which some scholars apply to the Aristotelian writings, were applied to Kant's *Critiques*, these would require to be largely rewritten and great portions would have to be rejected as spurious.

Lastly, in §§ 9-11 we have the explanation of this inattention or non-realisation of knowledge which in the preceding sections has been shown to be the source of *ἀκρασία*. In his final argument Aristotle goes more fully into the actual facts—the actual phenomena of mind—which take place in cases of *ἀκρασία*. This is to investigate the matter *φυσικῶς*, as distinct from the more abstract arguments which have preceded and which turn upon the general distinctions between potential and actual knowing, between consciousness of a universal rule and consciousness of the fully particularised application of it, between lip-service and real assent. What is now given is a psychological analysis of the mental state of the *ἀκρατής*, but with the help of the logical analysis of the syllogism. Aristotle has already recognised in *Eth. Nic.*,

[1] In connexion with §§ 7, 8, it is interesting to compare the passage in *Phys.*, 255 *a* 33, to which Prof. J. Burnet has called my attention. There two senses of *δυνάμει ἐπιστήμων* are distinguished: (1) that of *ὁ ἔχων ἤδη καὶ μὴ θεωρῶν*, (2) that of *ὁ μανθάνων*. The first of these senses is the potential knowledge of § 5 of this chapter in the *Ethics*. Can we identify the second with the unrealised knowledge of §§ 7, 8? The illustration of *οἱ πρῶτον μαθόντες* in § 8 would seem to justify this identification. Aristotle may mean that in states of "confused perception" (if we may borrow Leibniz's phrase), like those of swoon, insanity, drunkenness, the mind falls back into the condition of the beginner who has not yet waked up to the meaning of the words he is made to repeat.

vi., 2, § 5 (1139 *a* 35), that "intellect by itself is not an efficient cause of action". In order that action may follow upon an intellectual conviction there must be ὄρεξις present in the mind. προαίρεσις is νοῦς ὀρεκτικός. This is not repeated in vii., 3, but it certainly seems to be taken for granted. Aristotle has got beyond the Platonic antithesis between Reason and Feeling (which Mr. Fairbrother wrongly attributes to him on p. 363). Reason, he sees, is not all on the side of the good; nor feeling all on the side of evil (*cf. Eth. Nic.*, iii., 1, §§ 24, 27, 1111 *a* 30; *b* 1, δεῖ δὲ καὶ ὀργίζεσθαι ἐπί τισι καὶ ἐπιθυμεῖν τινῶν . . . αἱ δὲ πράξεις τοῦ ἀνθρώπου ἀπὸ θυμοῦ καὶ ἐπιθυμίας). If reason and feeling were merely separate from one another there could be no harmony between them (*cf. Eth. Nic.*, i., 13, § 18, 1102 *b* 30, τὸ ἐπιθυμητικὸν καὶ ὅλως ὀρεκτικὸν μετέχει πως λόγου): and he now recognises also that there could be no discord between them, unless they came together (vii., 3, § 10, συμβαίνει ὑπὸ λόγου πῶς καὶ δόξης ἀκρατεύεσθαι). The acts of the ἀκρατής are the working out of a practical syllogism as well as the acts of the ἐγκρατής. The ἀκρατής acts out a maxim which in itself is not opposed to the maxim of the ἐγκρατής. The ἀκόλαστος has bad principles—major premises that are opposed to those of the ἐγκρατής; the ἀκρατής has good principles, but, as already shown, does not carry them out, while he does carry out principles of pleasantness, of gratification of desire, not in themselves opposed to good principles, but *per accidens*—in particular circumstances. There is no logical opposition between the principle "Excess is to be avoided" and the principle "Sweet things are pleasant" (and therefore, it is assumed, to be enjoyed unless there is any reason to the contrary. Aristotle is no ascetic, and is quite ready to admit that pleasure is ἀγαθόν τι, though not *the* good, *Eth. Nic.*, vii., 13, § 1, 1153 *b* 4, *cf.* x., 4, § 10, 1175 *a* 16, εὐλόγως οὖν καὶ τῆς ἡδονῆς ἐφίενται *sc.* ἅπαντες). But in a particular case there may come to be a practical conflict, *e.g.*, "This (the third bottle of port, the nineteenth cup of tea, or—to use an example that fits Aristotle's illustration better—the fourth piece of sugar in the tea) is excess for me," is in practical conflict with the minor premise of the syllogism of pleasantness: and the minor premise of the syllogism of self-control may be overlooked and neglected, owing to the attention being concentrated on the minor premise, "This is sweet," through the influence of appetite and desire. To make the use of the practical syllogism in §§ 9-11 fit in perfectly with what was said in § 6, it should have been noted that each of the two syllogisms of §§ 9-11 admits of an analysis into a subjective and an objective aspect such as was given in § 6. The practically opposing conclusions, that is to say, are the complex propositions, "*This* act (here and now) is excess *for me*," "*This* act (here and now) is pleasant *for me*". All that has been said in the preceding sections is not superseded by §§ 9-11, but is supplemented and completed by them.

Aristotle is thus able to recognise the truth in the Socratic

doctrine, while getting rid of its paradox. Ακρασία is not acting contrary to knowledge in the true sense—the knowledge of universals—of principles. Not the principle but the sense-knowledge of the particular, the minor premise, is what is diverted and thrust aside in ἀκρασία. This seems to be the meaning of § 14, though the expression is cumbrous and the text possibly corrupt. Aristotle's whole argument brings him to the same conclusion as that of Mr. F. H. Bradley in his treatment of the question, "Can a man sin against knowledge?" in MIND, vol. ix. (O. S.), p. 290: "It is only where the attention is concentred upon the quality of the act, and even then it is only where the act in its wrongful quality is present as a vivid imagination, that the conscience will be irresistible. It is not knowledge, it is a relative degree of feeling excited by a certain kind of knowledge, that coerces the appetite. This, I think, will furnish us with a partial justification of our paradox, and it also may serve as its final refutation."

D. G. RITCHIE.

THE EXISTENTIAL IMPORT OF PROPOSITIONS.

In this paper some observations will be offered on the existential import of propositions according to the actual usages of speech (or, as I should prefer to say, according to the laws of speech), without reference to the interests of formal logic.

We might reach the answer to this vexed question by a short cut, if we could assume that the verb *to be* retains an existential import when it is used as the copula; since almost all (if not all) propositions can be expressed in the form, S is P. And it is far from certain that this way is closed to us, notwithstanding that Mill maintains the contrary with a placid confidence that is rather disconcerting to an unconvinced reader. It seems worth while to recall Mill's discussion of this point, were it only for the sake of the curious example it affords of the confusion in which the whole question of existential import is so often involved. He appears[1] to regard the use of one and the same verb both to assert existence and to serve for the copula as purely arbitrary; and he can only excuse Plato and Aristotle for the confusion into which they fell on this subject on the plea of their ignorance of a plurality of languages. Yet in the same paragraph he tells us (very truly) that the "ambiguity" exists "in the modern as well as in the ancient languages"; from which it would seem probable that an extensive knowledge of languages, far from delivering the Greek philosophers from their error, would have greatly confirmed them in it.

Mill even attempts to close the question by giving as an example, A centaur is a fiction of the poets. In so doing, he falls into a curious inconsistency with his own doctrine[2] that every proposition, not merely verbal, implies the real existence of its subject; since his example is by no means merely verbal, fictitiousness being no part of the connotation of the name *centaur*. The obvious explanation is that the proposition is elliptically expressed, and as it stands is not true. The poetic fiction never created a centaur, but simply created the idea of one; and this is amply realised by intelligent people who use such phrases, and they are ready to insist that in strictness of speech they must say, The idea of a centaur is a fiction of the poets. But as soon as the judgment is thus adequately expressed, the existence of the subject is very plainly implied indeed.

This would not be worth spending time over if it were merely the case that Mill lighted on a bad example; but it is quite another thing, if, as I believe, he could not have found a good one. At any rate, it is well to insist that he has done nothing (or rather, less than nothing) to silence the evidence of the copula.

It is not, however, on that evidence that I should rely in forming an opinion on the general question. For, though it is quite clear to me that it is by no mere accident that we make the verb that

[1] *Logic*, bk. i., c. 4, § 1. [2] Bk i., c. 6, § 2.

predicates existence serve as the copula, it does not seem certain that we can advance from this to a full existential implication in the copula (though the question whether we can is worth a careful investigation); and it is therefore a simpler and more satisfactory course to inquire what we can infer as to the existence of the subject from the mere fact of an affirmation as such.

On this point it is pleasant to be able to express a strong opinion that Mill has indicated the true doctrine,[1] and that it is only by a retrograde movement that a settlement of the question is attempted on any other basis.

Mill's doctrine already referred to is that an accidental (*i.e.* real) affirmation implies "the real existence of the subject, because in the case of a non-existent subject there is nothing for the proposition to assert". Of this, Dr. Keynes says[2] that it is "no doubt the view that, at any rate on a first consideration of the subject, appears to be at once the most reasonable and the most simple". Some of us are constrained to go much further, and to say that it appears to be a plain and necessary truth.

No doubt it requires to be guarded. "Real" existence must be understood in reference to whatever universe of discourse is in question. Mill overlooked this, and committed himself to the very questionable statement that "such a proposition as, The ghost of a murdered person haunts the couch of his murderer, can only have a meaning if understood as implying a belief in ghosts". But surely such a statement might naturally be made by the most thorough disbeliever in ghosts, if his discourse related to the universe of mythology. Take, however, a statement much more likely to occur. If I say, The Olympian gods practised many shameful deeds, the proposition is real and not unmeaning. Mill does not provide for such a case, but at the present time it presents no difficulty, and there is probably no fear of controversy arising with regard to it.

But if Mill's statement is modified in the light of the essential doctrine of varying universes of discourse, I believe that nothing more is required. The statement is then not only true, but within the truth; for it holds good for verbal as well as for real propositions. Mill was compelled to exclude verbal propositions, because definitions could be given of imaginary things. But to us this is no difficulty, and it is surely as impossible to give a definition of the non-existent as it is to make any affirmation about it.

But Mill's doctrine, however simple and cogent, has not commanded universal assent; and Dr. Keynes has recently maintained that many propositions are of a character altogether inconsistent with the doctrine.[3] He has adduced several plausible examples, but I believe that it is possible to show that they are only apparent exceptions.

Dr. Keynes' own view is that categorical propositions of what-

[1] *Loc. cit.* [2] *Formal Logic* (3rd ed.), § 117.
[3] *Op cit.*, pt. ii., c. 7 *passim*, especially §§ 122, 123.

soever class usually imply the existence of the subject; that some universal propositions, both negative and affirmative, are exceptions, but that the rule holds good universally in the case of both particular and singular propositions.

The following selection from Dr. Keynes' list of examples will be found, I believe, sufficiently representative: All candidates arriving five minutes late are fined one shilling; Who steals my purse steals trash; An honest miller has a golden thumb; A planet moving in a hyperbolic orbit can never return to any position it once occupied; No unicorns have ever been seen.

Now most at any rate of these and the other alleged exceptions are hypothetical propositions, some such clause as, If such there be, If any one should, etc., being plainly understood. So clearly is this the case that speakers who affect great precision make a point of expressing a clause of the kind, and the only objection ever made against doing so is that it savours of a pedantic *accuracy*.

Dr. Keynes anticipates this objection, and rules it out on grounds that seem to me altogether unsatisfactory. He says that the point at issue is "whether we ever meet with propositions in ordinary discourse which are categorical in form, and yet are hypothetical so far as the existence of their subjects is concerned"; and he says that "this point must be decided in the affirmative". But surely when we examine for logical purposes the usages of speech, it is material to us to know whether a usage is exact or slovenly, correct or incorrect; or rather, it is understood that we have to do only with correct usages, since otherwise we can have no guarantee that a given proposition is after all the expression of a judgment.

Now it is of vital importance to observe that these propositions as they stand may perfectly well imply the existence of the subject. A Cambridge man, relating various circumstances that had come under his notice at the University, might very well say: Freshmen are treated as inferior creatures; Candidates that arrive late at the examinations are fined; The lowest Junior Optime gets a wooden spoon. Here the existential implication is quite clear. How is it that the same form of words can be also used to express a radically different judgment? Simply because sometimes the connexion in which the words occur implies a hypothetical clause so powerfully that it is waste of time to express it. This means that the judgment is partly expressed, and partly left to be understood. But if ambiguous statements are allowed in the witness-box, I do not see why erroneous statements (*i.e.*, statements expressing a totally different judgment from that intended) should not also be admitted, and then there is no end to the confusion. I contend that Logic, as the Science of Reasoning, has nothing to do with any proposition that is not the sufficient and unequivocal expression of a judgment.

The above is no picked case. Take the negative example: No unicorns have ever been seen. The words might conceivably be

used by one who devoutly believed in all the folk-lore of his people, to illustrate, for example, the shyness of the animal; in which case, of course, there would be the ordinary full existential import. The only other sense in which the words can be used is as an argument for the non-existence of unicorns. The first speaker's intention is to assert a fact about unicorns; the second speaker's to assert that a certain thing is a fact about them, if there are any for it to be a fact about. Are we to treat a hypothetical proposition as categorical, simply because the hypothesis is so plainly implied that it is needless to express it?

As an *argumentum ad hominem* to Dr. Keynes, it may be pointed out that neither particular nor singular propositions are free from anomalous instances of this kind. Dr. Keynes admits this in the case of singulars, as in the proposition, The first man to ascend Mount Everest will be famous; and he makes no difficulty this time about relegating the proposition to its right place—amongst hypotheticals. But particular propositions are no better off. Take, for example, Some candidates arriving late are fined. This does not necessarily imply that any candidate ever arrived late. It may only be a partial statement of a regulation that provides for the fining of any candidate who comes late without an excuse signed by his tutor.

Formal logicians have possibly the right to frame whatever convention they find best suited to their purpose. But if they claim the sanction of usage, and consider it urgent to keep in harmony with the actual forms of speech, they are not at liberty to frame a convention that allows a necessary existential import to particular and singular propositions, and denies it to universal propositions. In all three cases, the (even apparent) exceptions are rare, but they are found in all alike. It is difficult to imagine what consideration would entitle us to neglect them in any, without entitling us to neglect them in all.

One of the examples quoted above from Dr. Keynes does not seem to me to be hypothetical; but, on the other hand, its existential import is sufficiently evident. The fact of my making a statement about all honest millers either implies that there are such persons, or it leaves it an open question. If the latter, the example before us is equivalent to, All honest millers, if it should be found that there are any, have golden thumbs; which is as far as possible from the meaning. It follows that the existence of honest millers is implied, which seems rather odd in a statement that aims at conveying the direct opposite. The explanation is that the existence is implied in irony; and therein lies the whole point of the saying. That there is an irony somewhere is evident. It is obviously not in the affirmation, or else the suggestion would be that the thumbs of millers were made of commoner clay than the thumbs of other men. It must then be in the implication, and, if so, the suggestion will be (on my view of the implication) that there are no honest millers; which is precisely what is intended.

It seems to me, therefore, that the view that every categorical proposition implies the existence of its subject,—a view which appears, as already stated, to be required by the very nature of the case,—is strongly confirmed by an examination of the alleged exceptions; for we have seen that the selected propositions that are categorical in form without implying the existence of the subject, not only admit of easy and natural expression in hypothetical form, but are not true propositions, in the sense of accurately and adequately expressing a judgment, until they have been so expressed.

There is one class of propositions that is *possibly* an exception. I refer to propositions of which the very object is to *deny* the existence of the subject. If these propositions are real exceptions it is of no consequence, since our rule will not seem less simple and satisfactory when stated with the requisite qualification, as follows: Every categorical proposition implies the existence of its subject, unless it *explicitly* denies it.

But however little objection there is to admitting an exception in such a sense, it is far from certain that we ought to do so. If I say, The Olympian gods have no existence, I cannot mean to deny an existence that I have implied a score of times before in various statements about them. I must be speaking of a totally different order of existence, *viz.*, existence in the universe of actual things; and this seems all that is intended to be denied. There will then be no ground for questioning that there is in such propositions an existential implication in reference to the appropriate universe.

Confirmation of the view maintained in this paper is furnished by the simple consideration that any proposition that does not imply the existence of its subject must needs *suppose* it. The *hypothetical* nature of the proposition is then not far to seek.

A further confirmation may be obtained by a glance at propositions that present themselves in a hypothetical form. If we express in categorical form as many of these as we can, we shall find that whenever the resulting proposition does not imply the existence of its subject, it does not express (without alteration or loss) the meaning of the original proposition; in other words, the hypothetical clause is essential to the expression of the judgment.

This indicates that the distinction between categorical propositions and hypothetical propositions is real and vital; and the simplest test that can be supplied lies in the implication of the existence of the subject in every true categorical. In a true (or pure) hypothetical, on the other hand, nothing is taken for granted. If we discarded the terms Categorical and Hypothetical, we could not alter the fact that all propositions now included under either of them fall into two distinct classes, composed respectively of those that have existential implication and those that have it not, and that those that have it not can never find unequivocal expression without a hypothetical clause.

W. Blair Neatby.

VII.—CRITICAL NOTICES.

The Will to Believe; and other Essays in Popular Philosophy. By William James. London, New York and Bombay: Longmans, Green & Co. Pp. xvii., 332.

At the risk of seeming to use the language of extravagant eulogy I should like to call this collection of Prof. James' essays a wholly admirable book, alike in form and in matter. That the form of any of Prof. James' literary productions should be deserving of the highest praise was indeed no more than would be anticipated by all who had ever enjoyed the grace of his style, the raciness of his phrases, the stimulus of his originality, in short the deftness of the manipulations whereby he is wont to charm the heavy indigestible dough of philosophic discussion to rise up into dainty shapes that need be disdained by no intellectual epicure. But it is the matter even more than the manner of Prof. James' teachings that renders his volume a delight to all lovers of philosophic literature. That a volume of essays on various topics, ranging in date from 1879-96, should possess a substantial unity surpassing that of many formal treatises is indeed a marvel, explained only by the fact in this case that they are welded together by the unity of a strong and picturesque personality. But the attitude towards philosophic problems taken up in these essays seems to me more remarkable even than the unity given to them by Prof. James' personality, and in a technical journal it is the more necessary to lay stress on this point as its importance is otherwise likely to be cloaked by the literary charm of Prof. James' manner, by his avoidance of cumbrous technicalities and formal elaboration, and by the engaging frankness and modesty with which he pretends only to express his personal feelings. There is a real danger that professed philosophers should come to believe that nothing can be profound but what is obscurely put, and that they should consequently pass over too lightly the lucidity which seems to reveal the depths of philosophic problems even to the uninitiated. Prof. James' essays are popular in this highest sense, that they can arouse the enthusiasm of the many without ceasing to stimulate the few. And yet he in no wise departs from the doctrine of sound science which he has expounded so brilliantly in his *Principles of Psychology*. It is true that we here have Prof. James making

incursions into the territory of general philosophy, but his preliminary raids give such promise of solid conquests, if ever he should find the leisure to advance in full array, that the opponents of his metaphysical views would be very ill-advised if they did not make use of the present opportunity in order to prepare themselves betimes to resist the coming onslaught.

The philosophic significance of the views sketched in Prof. James' present volume seems to me to reside chiefly in the fact that they mark a further step in the modern reaction against a one-sided and reckless rationalism—a reaction which bids fair ultimately to reconcile philosophy with common sense. That reaction has generally appealed to the *will* for a title wherewith to check the vagaries of the "*intellectus sibi permissus*". The fashion was set by Schopenhauer's Will-to-live, continued in Mainläuder's Will-to-die, travestied in Nietzsche's Will-to-power, and last but not least, albeit in a somewhat different sense, Prof. James draws our attention to the importance of the Will-to-believe. For the selection of the title of the first essay to be the title of the whole volume is significant. That believe we must, but that as to the content and manner of our belief we are far freer than we have been taught to believe, is the pivot upon which Prof. James' thought revolves. Thus the book becomes a declaration of the independence of the concrete whole of man, with all his passions and emotions unexpurgated, directed against the cramping rules and regulations by which the Brahmins of the academic caste are tempted to impede the free expansion of human life. The great lesson it illustrates in various forms is that wisdom as well as dining is often a matter of great daring, and that there are not really any eternal and non-human truths to prohibit us from adopting the beliefs we need to live by, nor any infallible *a priori* test of truth to screen us from the consequences of our choice. Now that seems a most salutary doctrine to preach to a biped oppressed by many '-ologies,' like modern man, and calculated to allay his growing doubts whether he has a responsible personality and a soul and conscience of his own, and is not a mere phantasmagoria of abstractions, a transient complex of shadowy formulas that science calls 'the laws of nature'. As against the worship of such 'idols of the theatre,' Prof. James most opportunely reminds us that abstractions are made by men and for men and not men for abstractions, that they become not venerable but execrable when their origin is forgotten and the function for the sake of which they were formed is neglected. 'Pure' science in short is pure bosh, if by purity be meant abstraction from all human purposes and freedom from all emotional interest.

Prof. James himself describes his attitude as a "radical empiricism" (p. ix.)—*empiricism*, because he is "contented to regard its most assured conclusions concerning matters of fact as hypotheses liable to be modified in the course of future experience," and *radical*, because he will not take anything for granted, not

even that the universe *is* a universe in any debatable sense (p. 68). For he will not allow that anything has been determined by calling the world a universe, so long as the infinite alternatives to which the term might apply are not rendered definite by a description of the particular universe intended. Hence he will not "dogmatically affirm monism as something with which all experience has to square," but accepts "the opacity of the finite facts as given," and "the crudity of experience remains an eternal element thereof". But if so, he must needs be a pluralist, on the ground that "there is no possible point of view from which the world can appear as an absolutely single fact. Real possibilities, real indeterminations, real beginnings, real ends, real evil, real crises, catastrophies and escapes, a real God, and a real moral life, just as common sense conceives these things, may remain in empiricism as conceptions which philosophy gives up the attempt either to 'overcome' or to reinterpret in monistic form" (p. ix.).

These are brave words and of the happiest augury; for they may mean the dawn of an era in which teleological postulates will be admitted to underlie all human activities, when consequently the postulates of man's knowing activities will be subjected to as candid a criticism as the implications of his feelings and actions, and when their subordination to the needs and aims of the whole organism will win due recognition.

The paper on "The Will to Believe" strikes Prof. James' keynote boldly by declaring that in all cases of genuine option between intellectual alternatives—that is in all cases where both alternatives appeal to us in any way—our decision not only lawfully may but must be made by our passional nature. It is idle in such cases to avoid decision by suspense of judgment; for though we may thus escape error, we also lose our chance of gaining truth. Very often, as is well illustrated by the Alpine climber in a desperate case, to refuse a decision is itself a decision; the climber must leap to safety or perish (p. 59). In such cases he who hesitates is lost, while conversely faith "creates its own verification," so that "the thought becomes literally father to the fact as the wish was father to the thought" (p. 103). Hence Prof. James "cannot see his way to accept the agnostic rules for truth-seeking or wilfully agree to keep his willing nature out of the game". For "a rule of thinking which would absolutely prevent one from acknowledging certain kinds of truth, if those kinds of truth were really there, would be an irrational rule" (p. 28). And the more so if it is realised that it is not really a question of intellect *versus* feelings, but of intellect *plus* one passion, "the horror of becoming a dupe," *versus* the rest.

The truth is that the intellect is entirely built up of practical interests, cognition is but "a cross-section at a certain point of what in its totality is a motor phenomenon," and "incomplete until discharged in act" (pp. 84-5). "Conceptions, 'kinds,' are teleological instruments," "every way of classifying a thing is but

a way of handling it for a particular purpose," "no abstract concept can be a valid substitute for a concrete reality except with reference to a particular interest in the conceiver" (p. 70). It should be recognised that the adoption of the evolutionist standpoint and acceptance of a reflex-action theory of mind commits us to "regarding the mind as an essentially teleological mechanism," so that "the conceiving or theorising faculty functions *exclusively for the sake of ends* that do not exist at all in the world of impressions we receive by way of our senses, but are set by our emotional and practical subjectivity" (p. 117). The sciences, in short, are thoroughly teleological at bottom; their "purpose is to conceive simply and to foresee" (p. 119). In so doing they may abstract from teleology, as from anything else, but the abstraction is itself teleological.

The doctrine of the mind's functioning which Prof. James urges in these terms is, of course, one which may easily be misrepresented as a new piece of theological obscurantism, intended to palliate the substitution of blind faith for disinterested adhesion to truth at whatever cost; and as it will certainly suit the purposes of some so to misunderstand it, that misrepresentation may almost be regarded as an accomplished fact. Yet it deserves to be pointed out that Prof. James' actual doctrine is not altogether new and almost indisputably true. The observation *possunt quia posse videntur* did not escape the sagacity of antiquity. And that the mind must be treated as a thoroughly teleological instrument is a conclusion which all modern science renders inevitable. Biologically, the brain is primarily an exceedingly plastic organ for effecting exceedingly varied adaptations to the organism's ends and conditions of life: it would seem to follow at once that the mind's action must be teleologically vitiated throughout, and that there is not the slightest antecedent reason for supposing that it functions satisfactorily except with reference to the practical needs of the organism. If then there existed absolute truth, of which man was not the measure, it would be most natural that the human mind should prove inadequate to its comprehension. But fortunately there is no ground for the assertion of any such absolute truth. What passes for such is itself an abstraction, which may have its proper function in the system of human ends, or may be perverted, like other aberrant instincts, into a mode of functioning useless, and even dangerous, to the whole organism. We are shut up then in a thoroughly anthropomorphic view of our experience. But it is an unwarrantable inference that such a view is *not* adequate to our needs. And it seems a most valuable suggestion of Prof. James' that we may often make it adequate by trying and by proceeding on the assumption that it is adequate. Whether *e.g.* the world is knowable or not may be, like the question whether life is or is not worth living (p. 60), one of the truths that become true by our faith (p. 96), one of the cases where "our personal response," the eye with which we regard the

facts, may make all the difference. Certainly this suggestion will go some way towards explaining the strange divergence of the estimates of the world which are come to by different persons and in different sciences.

For it is not the least factor in the relief held out to us by Prof. James' doctrine that it emancipates us from the superstition that our sciences set forth a rigid, unbending and unhuman order of fact which our volitions and emotions fret against in vain. The sciences appear simply as methods of transmuting the given-ness of facts into shapes subservient to our various purposes, and their 'principles' are adopted *ad hoc*. They may be as various as those purposes and as numerous as the sciences, though there is a natural tendency for the methods and assumptions of the predominant science to infect the rest. As Prof. James says, they are "chapters in the great jugglery which our conceiving faculty is for ever playing with the order of being as it presents itself" (p. 129), and it is a poor juggler that is taken in by his own tricks. There is no abstract sacrosanctity about the rules of science, and it may well be that "to the end of time our power of moral and volitional response to the nature of things will be the deepest organ of communication therewith we shall ever possess" (p. 141). Such sayings should not be taken as derogatory to the majesty of science, but they contain a much-needed vindication of the rights of man, the maker of all sciences.

This doctrine of the function of faith, so far considered, pervades not only the essay on "The Will to Believe," but also those entitled "The Sentiment of Rationality," "Reflex Action and Theism," "Is Life worth Living?" and "The Dilemma of Determinism". The last of these also defends the interesting position that the alternative to determinism, *viz.*, the reality of chance, in the end amounts only to an assertion of pluralism. It implies that the universe is not a rigidly and unalterably connected whole in which everything is fore-ordained and no windfall can cause an agreeable surprise, but rather "a joint stock society in which the sharers have both limited liabilities and limited powers" (p. 154), and "no part can claim to control absolutely the destinies of the whole" (p. 159). And inasmuch as after the event the universe with chance in it appears to the determinist eye as quite as rational as that which admitted of no contingency (p. 156), the question is theoretically insoluble (p. 159). No wonder then that as a matter of personal taste Prof. James prefers "a world with a *chance* in it of being altogether good" (p. 178) to a thoroughly determined world "of which either sin or error forms a necessary part" (p. 164). In reality, however, Prof. James would seem to understate his case. Once more the solution of the antinomy lies in observing the methodological character of the determinist assumption. The assumption is made for certain purposes of ours in order to render events calculable, but it would be absurd on that account to attribute to it an absolute validity and to

deprive ourselves of the ethical stimulus of an indeterminism that holds out the prospect of a victory over evil.

The same point is urged with great force in the good-humoured attack on Hegel's system entitled "On some Hegelisms" where "the pure plethora of necessary being with the oxygen of possibility all suffocated out of its lungs" is shown to render impossible all good or bad, and to reduce all things to "one dead level of mere fate" (p. 292). The method of Hegel, whom Prof. James playfully calls "a philosophic desperado," whose career is "one series of outrages upon the chastity of thought" (p. 274), seems to him to consist essentially of *a refusal to distinguish*, which enables to take what is true of a term *secundum quid*, to treat it as true of the same term *simpliciter* and then to apply it to the term *secundum aliud* (p. 280). And, he adds, in certain stages of nitrous oxide intoxication similar Hegelisms may be produced almost automatically.

The essay on "The Moral Philosopher and the Moral Life" contains the noticeable points that there is no abstract good or moral order *per se*, that "without a claim actually made by some concrete person there can be no obligation, but that there is some obligation wherever there is a claim" (p. 194), that consequently wrongness does not become "more acceptable or intelligible when we imagine it to consist in the laceration of an *a priori* ideal order than in the disappointment of a living personal God" (p. 196). The best world imaginable is that which satisfies all claims (p. 202), the best attainable that which satisfies as many demands as possible (p. 205), since "the essence of good is simply to satisfy demand" (p. 201). It would surely dissipate many atrocities of ethical theory to have it recognised that no moral order can be perfect that leaves unsatisfied the claims of any moral being however humble; yet it would seem that Prof. James somewhat exaggerates when he declares (p. 201) that "the various ideals have no common character apart from the fact that they are ideals". If that were so, the 'chance of a world altogether good' would be a poor one; but we may surely indulge in the thought (and so perhaps transmute it into fact!) that the various claims of the various beings may be made to converge into forms which are no longer mutually destructive.

The essays on "Great Men and their Environment" and "The Importance of Individuals" form eloquent protests against the misapplication of evolutionist principles which leads to the minimising of the function of great men. Great men are produced by physiological causes so remote from any traceable influence of the environment that they must from the point of view of the latter be regarded as 'accidental'. Yet their action often twists the course of history and gives it a direction in which it flows for ever after. Hence Prof. James confesses himself a hero-worshipper, *malgré tout*, and subscribes with all his heart to the remark of his carpenter that "there is very little difference between one man

and another; but what little there is, *is very important*" (p. 256).

The volume closes with an essay on the work of the Society for Psychical Research, which not only forms a chivalrous defence of a much and maliciously maligned subject, but also gives what is probably the best brief account of the achievements and aims of the little band of dauntless workers who have not feared the defilement of their academic robes by the pitch of superstition, if perchance they might extract coal-tar products of value from the uninviting waste of vagrant fancy. It seems possible that eventually—let us say towards the latter end of the twentieth century—they will have their reward, and be numbered among the heroes and martyrs of a more catholic science, as the pioneers of truths that have a more direct bearing on human welfare than any other; but at present it is probably more profitable to emphasise Prof. James' ingenious suggestion that the believers in the occult of all sorts are in reality instinctive rebels against the abstraction from personality which science commits in its anxiety to arrive at universal laws. Such persons take a personal and romantic view of life, and believe that events *are* respecters of persons. And, curiously enough, experience to some extent bears them out, as to a large extent it bears out the scientific disregard of particularity. And they may be right, wholly or in part, for philosophically "personality is the only complete category of our thinking".

Prof. James' explanation is so ingenious that one hesitates to criticise it as rather far-fetched; no doubt the abstraction from personality renders science more and more unsatisfactory the higher it rises, no doubt also belief and disbelief in the personal significance of events may to some extent construct their own verification after the fashion indicated in Prof. James' earlier essays; yet it would seem to be confidence in their real or imaginary personal experience rather than in the authority of science, and not any more recondite considerations, that actuates believers in the supernormal. Moreover if they and Prof. James happened to be right in their diagnosis, the outlook for psychical research would be even gloomier than it is. For the Society for Psychical Research was founded for the purpose of treating these experiences in accordance with the recognised procedure of the other sciences. If then their character were essentially personal, they would baffle the methods of science as such. Still we have to thank Prof. James for the idea, which suggests the further corollary that the real reason why ordinarily the 'universal law' operates so successfully, why the natural order seems to be no respecter of persons, is that personality is not yet sufficiently developed and that persons are not yet sufficiently differentiated to render it unprofitable to group them together.

In drawing attention to the manifold suggestiveness of Prof. James' work I have not gone out of my way to quote his numerous

epigrams, in spite of the temptation of constructing out of them a very delightful anthology. But though he has thrown his bomb shells into the stifling *aura* which surrounds many a hoary prejudice of the philosophic world, yet I firmly believe that, like the book as a whole, they will be found in the end to have contained nothing but the purest ozone, to freshen and cleanse the atmosphere of life.

F. C. S. Schiller.

La Modalité du Jugement. Par Léon Brunschvicg, Ancien élève de l'École normale supérieure, Professeur de philosophie au lycée de Rouen, Docteur ès lettres. Paris: Félix Alcan, 1897. Pp. 246.

The reader will probably agree very heartily with the author of this book, that modality is an excellent point from which to approach the fundamental problems of metaphysics. If we could once fully comprehend the significance of existence and necessity, and their relation to one another, we should have established a secure foundation for philosophy. And it is this full comprehension that M. Brunschvicg here proposes to give us. He announces his method as that of 'criticism'; and the main object of his book, like that of Kant's great *Critique*, is to determine the limits of human knowledge. He raises great expectations, therefore; and I am afraid it must be owned that he disappoints them most profoundly. This is not because, being professedly 'critical,' his results are, like Kant's, mainly negative; but rather because his actual performance is very uncritical. His work claims to be original, and to a reader unacquainted with modern French philosophy in general and, consequently, also with the 'neo-critical' school, it certainly seems to be so. M. Brunschvicg has succeeded in finding a new way of grouping some old truths and not a few errors, both old and new; but his novelty, it seems to me, is not even suggestive: for he has failed to grasp the essential merits of the systems, which he proposes to supersede, and therefore naturally cannot deal with the real difficulties, which are still inherent in those systems, despite their high degree of success. M. Brunschvicg's style, however, is certainly obscure, tending rather to successions of moderately epigrammatical phrases, of which the logical connexion is not apparent, than to lucid argument; so that it is quite possible he may have a meaning which has escaped me. For this reason I cannot regard myself as freed from the customary obligation to recommend a reference to the book itself; though I may add that those parts in which M. Brunschvicg's meaning is plain do not seem to warrant a sanguine view as to those parts in which it is not.

The book is divided into six chapters, of which the first 'de-

fines the problem'; the second is historical; the third gives M. Brunschvicg's own view of the nature of modality; the fourth attempts to determine the modality of twelve types of 'theoretical judgment,' and the fifth does the same for twelve corresponding types of 'practical judgment'; finally, the sixth chapter is a short 'Conclusion'.

The first chapter opens with a statement of the author's conception of philosophy, under the head of 'the notion of intellectual activity'. He explains that the aim of philosophy is 'to be an integral knowledge'; and that, whereas metaphysicians at first tried unsuccessfully to obtain this knowledge, by determining 'the total object,' 'criticism' has recognised that ontology, *i.e.* such a knowledge of 'being, as such' (*l'être en tant qu'être*) is impossible, and that philosophy must confine itself to 'being, as known,' or rather, says M. Brunschvicg, to 'knowledge, as being' (*la connaissance en tant qu'être*). Now, it is precisely in this last identification that I think the fallacy of M. Brunschvicg's whole position lies. His 'criticism' seems never to have been so thorough as to raise the question: Is 'being, *quâ* known' really indistinguishable from 'knowledge, *quâ* existent'? We may fully agree with him that, when he says 'Intelligence is transparent only to intelligence,' and therefore concludes that the study of 'will' cannot be 'the fundamental and primitive part of philosophy,' he is expressing an important truth; but, so far from drawing from this the inference that the essential function of philosophy *is* the study of 'intellectual activity,' there is surely good reason for inferring exactly the opposite. Intellectual activity, *quâ* activity, seems to be merely a form of conation, and is therefore a subject-matter of psychology, not of philosophy. It is not the *process* of cognition or judging, but knowledge or judgment, in so far as they are true, which offer to metaphysics that point of departure, which justifies itself, and so distinguishes this from every other study. M. Brunschvicg, in fact, seems to lay himself open to the very question which he urges against 'the first metaphysicians'. How does he know that this object, which he proposes to study, 'cognition, *quâ* existent,' is 'directly grasped'? '*Quâ* existent' it would seem to be just as exterior to him as any other object. But 'being, *quâ* known' is an object not liable to the same objection. For the question: How do I know that what I know *is?* supplies its own answer, simply because, to say that a thing is known, implies that it is true; not because, to say that it is known, implies that it is an object of intellectual activity. You cannot affirm that nothing whatever is true, without contradicting yourself; for you imply that what you affirm is true itself; but you can affirm that intellectual activity does not exist, without a contradiction; because what you affirm may be true, even if it is not true that you are affirming it.

M. Brunschvicg seems, then, throughout his book to confuse epistemology with psychology. He never asks himself the ques-

tion, What is the difference between truth and error? and this neglect shows itself in many surprising doctrines. One of these, which reappears frequently, occurs in his very first chapter. He here distinguishes 'science' from 'philosophy,' very properly, I think, by the fact that science presupposes a determinate object, which it examines as 'fixed and immovable'. But he seems to think that, for this reason, thought can only be studied scientifically in the form of language. We are not, therefore, surprised to find (p. 6) that the Aristotelian Logic is identified with grammar or philology; and that the difference between affirmation and negation is represented as concerning only 'the translation of thought, not thought itself' (p. 13). Psychology, again, on this view, can, of course, not be a science; and accordingly we find M. Brunschvicg appealing to 'psychological analysis' in confirmation of his view that 'relations' have no significance for what he considers the true, or philosophical, Logic (p. 13, note). Similarly Mill's doctrine of 'association' is simply a result of 'philological analysis' (p. 10). Many would have thought that its lack of logical significance was due to its psychological character; but for M. Brunschvicg, on the contrary, it is not true Logic, just because it is *not* Psychology.

Again, we should expect to find that where the analysis of 'intellectual activity' is identified with logical analysis, some difficulty would be found in distinguishing that which is logically, from that which is temporally, prior. And M. Brunschvicg does not disappoint us. The twelve types of judgment, which he takes to illustrate his doctrine of modality, cannot, indeed (he tells us), be deduced from the forms of modality *a priori;* but, nevertheless, they are to be arranged in a systematic order, according to the modality which they exhibit (p. 111). And this systematic order, so far as it is systematic at all, corresponds strikingly with the order of genetic psychology. The first type in the theoretic list is a mere 'unconscious' 'psychical fact,' such as, according to M. Brunschvicg, is exhibited in catalepsy (and I do not know enough psychology to contradict him). The first in the practical list is, similarly, the purely automatic movement of the organism, which, however, M. Brunschvicg seems to regard as necessarily preceded by a certain amount of conscious psychical effort, which he finds in 'instinct': it is, I suppose, merely because he makes this mistake of taking the development of instinct to imply conscious rather than sub-conscious adaptation, that he does not begin with that. But we have not merely M. Brunschvicg's deeds to appeal to, when we accuse him of confusion in his use of 'prior' (*antérieur*); he has given us, in his Conclusion (pp. 238-240), a truly wonderful passage, on the connexion of time with modality. He here tells us that 'the judgment, in order to posit the existence of the object, as independent of its own existence, posits the object as being before the judgment, if the judgment is theoretic, and as to be (*devant être*) after the judgment, when it is

practical; the judgment of recognition (*constatation*) gives us the notion of priority, and the judgment of action gives us the notion of posteriority' (p. 239). He then adds a note to warn us, that he is not here concerned 'with deducing the parts of time, but merely with showing the correlation of those parts with the different forms of judgment'. Yet he immediately goes on to say that the doctrine 'that it is the distinction of judgments which gives us the means of understanding and basing the division of the parts of time' is 'in no way paradoxical,' as if that were what he *was* concerned with; and in the text, after objecting to Aristotle for holding that 'the nature of time was the justification of the different modalities,' he goes on to assert that 'inasmuch as past and future are the object of the judgment, they cannot have the same title to existence as the judgment itself'. Now what I should like to ask of M. Brunschvicg, is whether a mere 'correlation' of the parts of time with the forms of judgment would give him the right not only to contradict Aristotle, but also to assert that time has not the same title to existence as the judgment, and that the latter is in some way the 'basis' of time. He seems to admit no alternative between 'deducing' one from the other, and merely correlating them; and yet he persists in regarding them as somehow on a different level. It is needless to say that this strange relation, for which his system leaves no place, is just what most people mean by 'logical dependence': M. Brunschvicg is trying to show that the judgment is logically 'prior' to time. But naturally he can find no way of saying so, since he regards judgments as nothing but 'acts,' or 'successive moments of intellectual activity,'—and those moments 'really' successive too (p. 238). He holds that a 'Dialectic' such as Hegel's is condemned, because its stages must be homogeneous, and all stages being necessarily 'successive,' the only homogeneity possible for them must be that of abstract time; and we have no right to abstract. In short, he manages to collect within the space of these few pages an almost incredible complication of self-contradictory nonsense. We may notice, in passing, that, in the note above referred to, he reaches the conclusion that 'the consciousness of the spontaneous life which unrolls itself through the moments of time, implies a centre of reflexion which does not elapse with the course of time'; whereas it is his fundamental objection to Descartes' '*Je pense, donc je suis*,' that 'thought' only warrants the affirmation of itself, not of any 'unity' such as the 'I'. Has, then, this 'centre of reflexion' no unity; or is it the same thing as the 'reflexion' of which it is the centre?

Again, although, as we have seen, he maintains in his first chapter that only a knowledge of knowledge can be an 'integral' knowledge, such as philosophy must be, he justifies his consideration of the modality of practical judgments in chapter v. by telling us that 'the truth of a philosophic conception scarcely allows of any other criterion than the integrality' (if I may revivè the

word) 'of its application' (p. 182); so that we must expect our conception of modality, which has already been supplied by the only possible 'integral' cognition, nevertheless to receive confirmation from its applicability to action, which must itself be accepted by speculation 'as a datum which is, by nature, irreducible to it and goes beyond it'. This would seem to suggest not only that the knowledge of knowledge is not integral by itself, but also, that, when M. Brunschvicg told us in chapter i., that it, and not the integral object, must be taken as our basis in philosophy, he knew all the time that an integral object must also be presupposed, and even that action formed a part of it. Nevertheless, on p. 183, he again attempts to introduce his limitation of our opportunities to study the practical judgment, by saying that 'the act' is a datum for that purpose, 'comparable in every point to the verbal expression of the theoretical judgment'. Now, considering the scorn with which he has spoken of the 'philological' logicians, we should hardly have expected to find a considerable portion of his book occupied with analysis of a subject-matter, which he himself admits to be 'comparable in every point' with that to which they were so trivial as to limit their analysis. Moreover, he does not hint that his own analysis of the 'theoretical judgments' is merely a matter of grammar, and yet he seems to make no distinction, in point of treatment or significance, between that and the corresponding analysis of practice.

But it is time we returned to M. Brunschvicg's main theme. In his first chapter he proceeds to analyse the concept, the judgment, and the syllogism, with the view of showing that the first and last are both reducible to the judgment, as the fundamental and unique 'act of intelligence'. He concludes his discussion of the judgment by characterising it as 'the act which posits the *copula*'; but he has already explained that this *copula* which it posits need not have two terms to connect. On the other hand, he maintains that the concept must always contain a relation between 'extension' and 'intension'; and he seems to obtain even this doubtful result by not distinguishing the concept itself from the act of conceiving. His criticism of the syllogism is based upon the remark that the major must be regarded as expressing the identity of two qualities, and the minor that of two individuals. In order to draw a conclusion from them, it is then necessary that the individual designated by one of the qualities should be 'identified' or 'unified' (see p. 14) with that quality, by an act precisely similar to that which constitutes the concept. This, he maintains, is the only true 'judgment' in the whole process. But he himself supplies a criticism on his theory, by producing a 'rectified syllogism,' of which the conclusion is that 'Frenchman' is not 'man'; the apparent falsehood of which he explains away by saying that it denies the identity of the two predicates, whereas his previous examples were based upon the presupposition of identity between precisely similar predicates, *e.g.*, 'just' and 'philosophic'.

Having settled that the essential characteristic of judgment is to posit the copula, or affirm 'being,' and that the ordinary notions of 'possibility,' 'reality,' and 'necessity' are ambiguous, he institutes an inquiry into the meaning of 'being,' in the hope of discovering by its analysis, exact notions of its different modalities. His conclusion is that the judgment has two forms, 'interiority,' where it affirms a necessary relation, and 'exteriority,' where it simply recognises a sort of 'shock'. His analysis of particular judgments seems to lead to the conclusion that neither of these two forms can be found in its purity. All actual judgments are of a 'mixed form,' and their modality is only possibility. It is in this mixture of the two forms that M. Brunschvicg finds 'the possibility of error'; but, on the other hand, in the actual consideration of judgments, he frequently uses the fact of possible error as a proof that the judgment is mixed. In fact, though M. Brunschvicg asserts that the true aim of Logic should be to determine the *legitimacy* of the affirmation of being, his definition of judgment as its *mere* affirmation, and his exclusion of any other means for determining truth than the analysis of judgment in this sense, effectually prevent his ever really approaching the question of validity, which, we agree with him, is the only fundamental one. In how puerile a spirit he views his main subject, modality itself, may be shown by the conclusion of his third chapter, where he boasts that, whereas Hegel made reality, possibility and necessity all equally necessary, his own result is that 'it is necessary there should be an ideal form of necessity, it is real that there is a form of reality, it is possible there should be a form of possibility'. He makes no serious attempt to justify this statement, which, if it were true, would surely throw considerable doubt on his own doctrine that all our actual judgments are merely possible. With regard to his distinction of the forms of 'exteriority' and 'interiority,' the significance of it is obvious; but, whereas Hegel's attempt to exhibit their close unity, only wins from him the remark that Hegel's system was a dualism, he himself, while insisting that they have nothing in common, seems yet to consider that they are unified in such a way as never was before, by being merely posited as forms of that intellectual activity, which is warranted as 'one' merely by our 'profound sentiment' of its unity.

G. E. MOORE.

The Sense of Beauty: being the Outlines of Æsthetic Theory. By GEORGE SANTAYANA. New York: Charles Scribner's Sons, 1896. Pp. x., 275.

Eine Theorie des Schönen: mathematisch-psychologische Studie. Von P. I. HELWIG. Amsterdam: Delsman & Nolthenius, 1897. Pp. viii., 87.

THERE are three different ways, Dr. Santayana tells us, in which the study of æsthetics may be approached. We may exercise

æsthetic activity, pass the æsthetic judgment; we may explain art historically, as a department of anthropology; or we may employ the psychological method, and inquire into the origin and conditions of the æsthetic judgment and sentiment as facts of consciousness. It is the latter task which the author has set himself in *The Sense of Beauty*. A poet and essayist of no small merit, he has here laid aside construction for theory; and though his preface modestly declares that the book "simply puts together the scattered commonplaces of criticism into a system, under the inspiration of a naturalistic psychology," the theory shows much of originality, and sets many of the accepted canons in a new and clearer light.

The answer that Dr. Santayana returns to the vexed question of the nature of beauty is, put briefly (I shall recur to the definition later on), that it is objectified emotion. And from the psychological point of view this is, probably, the most satisfactory answer that can be found. The statement is true enough, as the author means it at the end of his inquiry, that "if we look at things teleologically . . . beauty is of all things what least calls for explanation". But it is equally true that the psychologist, at the beginning of his investigation, cannot be satisfied till he has found a survival sanction for the æsthetic as for the moral, religious and intellectual sentiments. To refer beauty to the 'personifying apperception' is to connect æsthetics in the most intimate manner with religion, and thus to give it one of the strongest possible sanctions; while it would seem, too, that the psychology which attaches the play sanction to æsthetic activity only after the humanising of nature has been accomplished is sounder than that which derives the æsthetic attitude directly from an ultimate play impulse. The differentia of æsthetic pleasure, then, is its objectification. Furthermore, beauty, by the fact that it is objectified *emotion*, becomes a value; and as a value possesses two distinguishing marks. It is positive, never the perception of a real evil; and it is intrinsic, never the result of the utility of object or event. "These two circumstances sufficiently separate the sphere of æsthetics from that of ethics." It may be added that neither attribute presents any psychological difficulty.

Having thus defined beauty, the author proceeds to discuss it under the three headings of materials, form and expression. Any sensation process that can enter into an emotion can also, of course, form part of objectified emotion, *i.e.*, furnish an ingredient of beauty. But psychology has come to lay greater and greater stress upon the organic sensations as factors in the emotive consciousness. Dr. Santayana accordingly begins his account of æsthetic material by reference to the obscure psychoses that accompany the discharge of organic function within the body, such as compose, *e.g.*, the 'general feeling' of bodily health. Of the more definite organic sensations, those that constitute the sexual instinct are of especial æsthetic value. Less important are the

social impulses. "social objects . . . are diffuse and abstract: . . . the great emotions that go with them are not immediately transmutable into beauty". Smell, taste and touch are also of small importance for æsthetics. Sights and sounds offer the greatest qualitative differences, and are the most easily objectified of all sensations: their contribution to the sum of beauty is proportionately large.

Here, however, we come upon a psychological difficulty. We are dealing with the materials of beauty. Now sights and sounds, as sensations, and even (this is at any rate true of sounds) as isolated sensation complexes, have very little affective tone; nothing like so much as smells and tastes. Yet sense feeling, the author says, enters largely into the æsthetic enjoyment of painting and music; there is a 'sensuous beauty' in both. It may be, perhaps, that with recurrence of the primitive act of objectification the primitive sense feelings, pleasure in mere sight and mere sound, also recur in the civilised mind, however threadbare we may have worn the sights and sounds that we use for the ordinary communication of ideas. This appears to be the writer's view; he points to the sensuous delights of children and savages (pp. 79, 163). It may be, however, that what purports here to be sense feeling is in reality a much reduced emotion; at least the thought is suggested by such phrases as 'royal' purple and 'angry' red, or the author's 'tender' blue of the sky (p. 100). The question is worth explicit discussion.

A similar difficulty confronts us at the outset of the chapter on Form. I have said that Dr. Santayana defines beauty as objectified *emotion.* This is surely the only correct formulation from the psychological standpoint. The sense feeling is not objectified: the emotion is the simplest process in the hierarchy of affective states that has objective reference. And it seems to represent the writer's general position. When he speaks of objectifying the 'feeling' that accompanies 'perception' it is the perception of a concrete thing, the assimilation, that he has in mind; else he could hardly write that "there is in the mere perceptibility of a thing a certain prophecy of its beauty". Now, however, his terminology misleads him. Physiologically, the perception of form is conditioned by the associative network of retinal local signs and muscular sensations. But this does not allow us to make muscular tensions the immediate vehicle of the æsthetic judgment. The "indifference and sameness of sensation," we read, "in whatever direction some accident moves the eye, accounts very well for the emotional quality of the circle". "The comfort and economy that comes from muscular balance" is in some cases "the source of the value of symmetry". Rather must it be true that, while no sensibly unpleasant form can ever be æsthetically pleasing, the æsthetic pleasure in form is due to some emotion (restfulness, ease, satisfaction) which the contemplation of form sets up. How it came about that, with developing

intelligence, form as form caught the attention of man, we shall probably never know; but the forms that did so must have been striking, and are therefore more likely to have been sensibly unpleasant than sensibly pleasant.

The beauty of form, "the most remarkable and characteristic problem of æsthetics," being thus explained, psychological difficulties are over; the chapter runs smoothly in theoretical and hortatory channels. There are good discussions of the principle of unity in variety, and of the relation of utility to beauty. Perhaps the most important sections are those that treat of the origin and value of types, and of the special shaping of æsthetic ideals: "the generic image has been constructed under the influence of a selective attention, bent upon æsthetic worth". The relativity of beauty is strongly insisted on. Literary form is illustrated by reference to plot and character drawing.

The concluding chapter is occupied with æsthetic expression. "Whereas in form or material there is one object with its emotional effect, in expression there are two, and the emotional effect belongs to the character of the second or suggested one. . . . The value of the second term must be incorporated in the first." Here the author has to face the problems of tragedy and comedy, wit and humour, the sublime and the grotesque. Of all he has something pertinent and suggestive to say. He sets out from the thesis that art does not seek "the pathetic, the tragic, and the absurd; it is life that has imposed them upon our attention, and enlisted art in their service". The tragic emotion is complex: we suffer with the sufferer, but our suffering is overbalanced by æsthetic pleasure, pleasure in beauty of material, beauty of form, and "the continual suggestion of beautiful and happy things, which no tragedy is sombre enough to exclude" To this must be further added the intellectual interest in truth. Tragedy rises to sublimity with the final assertion of self over against an uncontrollable world; the mind recoils upon itself, conscious of its independence; self-liberation is the essence of sublimity. Throughout, the writer keeps his psychology well in view.

Such, in brief outline, is a theory which a finished presentation makes as pleasurable to read as condensation and range of topics make it difficult to summarise. A notice of it should not end without reference to the many quasi-aphoristic sentences that force the reader's attention from time to time. "A grateful environment is a substitute for happiness;" "the simplest thing becomes unutterable if we have forgotten how to speak;" "theory helps us to bear our ignorance of fact;" these and similar sayings are not mere purple patches, but the natural culminations of definite arguments. The book as a whole may be cordially recommended to the notice of psychologists. In a second edition the author will, perhaps, do well to bring out more explicitly the element of value in the logical judgments of truth and falsehood, and to draw more largely for his illustrations upon music, the most detached and, in a sense, the youngest of all the arts.

Dr. Helwig attacks the problem of the nature of beauty in a very different way. Whenever we pass an æsthetic judgment, he says, we choose between quantities, but between quantities as subjectively symbolised (colours, tones, forms, etc.). The ugly is always the too much or the too little of these quantities. The beautiful is the average, the type, stored unconsciously in memory, and unconsciously compared with the given presentation. Beauty and the pleasure in beauty are therefore quite different things. There are four causes for individual variation in respect to the standard of beauty: individual constitution, difference of experience and environment, the number of aspects under which everything can be regarded, and difference in symbolic meaning and association.

The mathematical development of the theory, and its application to certain experimental results, show that the type corresponds to the geometrical mean of the given presentations. Of the importance of such a conclusion there can be no doubt. But it must be remembered that the æsthetic judgments as yet procurable in the laboratory are simple in character and limited in range; so that what holds of them need not hold of beauty in general. It is more probable, as Dr. Santayana points out, that the type is modified in the direction of pleasure; the typical or ideal woman has a more than average stature, more than averagely large eyes, etc. Dr. Helwig has therefore laid himself open to the charge of overhasty generalisation. Moreover, the divorcement of beauty from the charm of beauty seems more than questionable; if beauty is perceived, it is felt; if it is not felt, it is not perceived, *i.e.*, does not exist for the individual who is left unaffected by it. And, lastly, the extension of the theory to cover the sentiment of sublimity is arbitrary and fanciful. These defects are, however, the defects of qualities; the book is an independent and original contribution to theoretical æsthetics.

E. B. TITCHENER.

VIII.—NEW BOOKS.

Aristotle and the Earlier Peripatetics: being a translation from Zeller's *Philosophy of the Greeks.* By B. F. C. Costelloe, M.A., and J. H. Muirhead, M.A. 2 vols. London, New York and Bombay: Longmans, Green & Co., 1897. Pp. xii., 520; x., 512.

This translation "embraces part ii., div. ii., of the third edition of Dr. Eduard Zeller's work on *The Philosophy of the Greeks in its Historical Development.* It is made with Dr. Zeller's sanction, and completes the series of volumes issued from time to time by Messrs. Longmans as translations of the various sections of that exhaustive work." All students and teachers of Greek philosophy in the English-speaking world will welcome this long-expected version. In some respects the section on Aristotle is the best portion of Dr. Zeller's great work, and, in the absence of any complete and satisfactory English book on the subject, it is the portion which it was most necessary to have translated. It is, indeed, a pity that we have had to wait so long; for the text here translated was published in 1879. Still it probably represents in the main the author's present views, and would require less alteration than some other parts of the English translation. In vol. i., p. 102, there is a note, inserted I suppose by the translators, which simply states the fact that since the text was written the treatise on the Athenian Constitution has been recovered.

The translators have done their work excellently, and a somewhat careful examination has revealed very few matters to which objection can be taken. In vol. i., p. 28, *note* 2 contains this sentence: "The continuous lecture on a definite theme is expressed by *πρὸς θέσιν λέγειν*: a more cursory treatment by *ἐπιχείρειν*". For "a more cursory treatment," should be here substituted "dialectical discussion". The German is "*Deputation*"—evidently a misprint for "*Disputation*". On p. 146, the word "exoteric" should be "esoteric". P. 159, "The *Genesis of Animals*"; the more usual title "*Generation*" is surely better in English. On p. 299, *notes*, the word "Apory" (Germ. *Aporie*) makes odd English, though it has been used by others. It has not the unlucky ambiguity of Grote's "theories" and "liturgies"; but is it not more in accordance with English usage to naturalise the form "Aporia"? On p. 309 *Geist* is translated first by "mind" and then by "spirit" in the same sentence. It would be better to use "mind" in both places. The passage relates to Aristotle's reference to the *νοῦς* of Anaxagoras. In vol. ii. p. 137, *note*, "Ethics" and "Politics" should not be in italics. It is the subjects, not the books, that are referred to. On p. 171, *note* 1, "public and private *law*" would be more English than "public and private right". "*Recht*" is always difficult to render; but "right" can only be used by express convention for it. P. 294, "Rhetorical proof proceeds by enthymeme

and instance". "Example" is perhaps a safer rendering for παράδειγμα (*Beispiel*) always; "instance" might suggest ἔνστασις to the unwary student. It is a pity that in giving the references to other portions of Zeller's *Philosophy of the Greeks* the translators have not given them to the volumes and pages of the English version (except, of course, in cases where the passage referred to occurs only in later German editions than that from which the English version was made).

Dr. Zeller's work on Aristotle is too well known to require any special criticism or commendation now. It is in any case indispensable to the student and will probably not soon be superseded. An unfortunate error in the translation of a phrase in the "Will" which Diogenes Laertius gives as Aristotle's may provoke the scorn of the Greek scholar, but does not detract from the general learning and soundness of judgment which the veteran historian of Greek philosophy everywhere displays. By an error which he shares with (or borrows from) Grote, Zeller translates ξῶα λίθινα τετραπήχη "four statues of animals" (Transl., i., p. 38, *note*) instead of "marble images of four cubits high". ζῷον may be used, as by Plato, for images of human beings as well as of animals.

In discussing the problem of the present condition of the Aristotelian writings, Zeller seems too lightly to put aside the theory that "our Aristotle" may consist largely of notes taken by pupils at the Master's lectures. The theory does not exclude those which Zeller adopts. May not such books at least as the *Ethics* and *Politics* be a combination of (1) Aristotle's own notes for his lectures and for treatises he intended to write, (2) finished monographs on special points (*e.g.*, the Essay "On Friendship" *Eth. Nic.*, viii., ix.), and (3) notes taken by his pupils, and used by his editors, as, *e.g.*, by Hegel's, to supplement the material he left behind him?

Zeller's discussion of the phrase τὸ τί ἦν εἶναι (Transl., i., pp. 217-219, *note*) seems less clear than that of Schwegler (in his edition of the *Metaphysics*), with which on the whole it appears to agree. It is hardly quite fair to Aristotle to say, as Zeller does (Transl., i., p. 239), that he ignores the so-called fourth syllogistic figure of later logic, without adding that Aristotle (*Anal. Pr.*, i., 7, 29 *a* 19 *seq.*) did recognise the only moods of it (*Fesapo* and *Fresison* of mediæval logic) which are anything more than awkwardly expressed moods of the first figure. There is a curiously inaccurate sentence (quite correctly rendered by the translators) in the account of Aristotle's *Ethics*: "Now the activity of reason, in so far as it is rightly performed, we call Virtue" (Transl., ii., p. 142), Virtue, according to Aristotle, is not an ἐνέργεια: that is the principal reason why it is not the chief good. Zeller's sentence suggests a confusion (into which he does not mean to fall) between 'Virtue' and εὐδαιμονία. Zeller (Transl., ii., p. 128) seems hardly just to Aristotle's admirable account of the combination of reason and appetite in 'Will'; but that is a matter which would require a long discussion.

On details of this sort one may differ from Zeller or prefer the views of other interpreters of 'the philosopher'. But, if we look at the work as a whole, it is impossible not to admire its wide learning, its philosophical grasp, and above all its unvarying sobriety in judgment. Of this last quality it may be worth while to give three characteristic examples. In vol. i., p. 260, *note*, Zeller quotes approvingly G. H. Lewes's favourable opinion of Aristotle's observations of animal life; but he adds "All the more odd is it that Lewes should complain of Aristotle's failure to mention (in speaking of the cephalopods) the freshness of the sea-breeze, the play of the waves, etc. This is to blame Aristotle for not having the bad taste to drop from the realism of a zoological description

into the style of a *feuilleton*, or the impertinence to explain to people who had the sea daily before their eyes the things they had known all their lives." On p. 330, *note* 5, the translation of οὐσία by "substance" is rightly defended against an attempt to restrict that term to the sense in which it is used by Herbart. In vol. ii., p. 97, *note* 3, Zeller points out, like Bonitz, that Aristotle nowhere uses the term νοῦς ποιητικός; but he does not pedantically forbid the use of this convenient phrase to expositors of Aristotelianism from Alexander of Aphrodisias downwards.

D. G. RITCHIE.

The Disclosures of the Universal Mysteries. By S. J. SILBERSTEIN. New York: P. Cowen, 1896. Pp. viii., 298.

Mr. Silberstein's metaphysical system is one which it is difficult to take seriously, and yet—such is the author's vigour and earnestness of thinking — impossible to take in any other way. His problem and phraseology make it natural to compare him to Spinoza, to whose race he belongs; and, indeed, in his strictly deductive procedure, his confident dogmatism, and the boldness of his intellectual flight, he has something in common with his greater predecessor. On the other hand, his thought is pervaded by a mysticism and word-worship from which Spinoza was wholly free, and we lay down his book at the first reading with but a confused notion of what his system really is.

The volume contains four parts. The first deals with the idea of God, or absolute intellectuality. As when we set out to build a machine we have an image of it in our mind beforehand, so must the intellect of the universe have constructed a mental image of the entire universe before it was formed. But the machine, when built, takes its place in the endless and closed series of physical causes and effects. All the change here is illusory; the real existence of the physical world is an existence of potential matter or potential essence. This potential matter realises the abstract idea of the universe as a whole that has been framed by the absolute intellectuality or God—realises it, just as the machine built realises the idea of the builder.

Part ii. is entitled Creation or Absolute Emanation. The universe must be absolute and yet not self-existent. If it were not absolute, God would have existed at some time before it: it would be an accident of his nature. But our conception of him requires that everything related to him be related to him as his essence. If it were self-existent it could not be subject to change, as it is. Its existence was explained by Spinoza pantheistically. But (1) not every mental process can be a mode of the universal substance; for that is pure absolute wisdom, and the imagination, *e.g.*, contradicts itself. (2) The universal substance cannot ever possess the attribute of extension, which implies matter and its modifications; it must be conceived by the one attribute of thought. (3) The substance of extension is active and passive; the being of intellectuality is neither. We thus reach the conclusion that the creation of the universe is an eternal creation, an eternal emanation of the absolute intellectuality; thought is the absolute eternal emanator by its own nature.

How then does the non-absolute, how do particularised concrete things, come into existence? The answer is as follows: "Inasmuch as the essence of the universe issues forth from the very light of the mind, as a radiation of the intellectual waves or a photographic image, its absolute emanation becomes a general activity in the universal essence; and by this general activity the universe is actuated. It vibrates itself in spiritual waves and reveals itself according to time and to place in particularisations."

Part iii. discusses Matter and Force; the Universe in its Potentiality and Actuality. The treatment is historical: the Ionian and Eleatic schools, Aristotle, Kant, Descartes, Spinoza, Helmholtz are sharply criticised. Gravitation is replaced by the force of centrality, "the one tender or innermost force or principle in the universe, which holds and correlates the universe together". A brief excursus brings evidence for the fact that the Hindoo Brahma or Braham is the patriarch Abraham, with the initial letter omitted.

Part iv. treats of Universal Mechanism; Motion and its Transformation. Newton's laws are reconsidered in the light of the principle of centrality, and the atomic theory replaced by the doctrine of the universal essence of parts i. and ii. Examples are given and worked out in detail. It is unnecessary here to dwell upon these: enough has been said to give the reader a general idea of Mr. Silberstein's method and results. For the full understanding of the system he must be referred to the book itself.

E. B. T.

Contemporary Theology and Theism. By R. M. Wenley, M.A., D.Phil. (Glas.), D.Sc. (Edin.), Senior Professor of Philosophy in the University of Michigan, etc. Edinburgh: T. & T. Clark, 1897. Cambridge, Mass., U.S.A.: John Wilson & Son. Pp. 197.

The author tells us that the substance of this work was originally presented in the form of a Lecture, delivered some three years ago before the members of the Glasgow Theological Society. Its object was to depict the controversies which have agitated the modern theological world since the polemic between Kant and Schleiermacher was brought to an inconclusive issue at the end of the last century. Professor Wenley thinks that the character of contemporary speculative theology has been largely determined by the influence of Hegel, whose writings accustomed thinkers to interpret religious ideas from a genetic and historical standpoint, and to account for their existence by evolution instead of by revelation. The abiding miracle of the universe is the potentiality of development which manifests itself everywhere. Of this absolute miracle "Christianity is to be viewed as an integral and in nowise exceptional portion" (p. 36). Pages 39-60 are occupied with criticism of the General Principles of the Speculative School, of which Strauss and Baur have been the most pronounced representatives.

The recent phase of German theology, known as the Ritschlian School, betrays a decidedly reactionary tendency, owing, thinks Professor Wenley, partly to the teaching of Lotze, and partly to the impatience of Hegelian Absolutism, which has found expression in the common catch-phrase "Back to Kant". Ritschl's contention seems to be "that religion and the theoretic knowledge of the world are distinct functions of the spirit, which, where they are applied to the same objects, do not even partially coincide, but go *in toto* asunder from each other. Religion necessarily implies a teleological conception of the world; science, a causal one" (p. 86). The originality of the Ritschlian method consists in its attempt to establish Theism by means of Christianity, whereas other theological systems had assumed Theism as the premise of Christianity. With Ritschl Christ is the focus, the pivot and the starting-point of all religious faith and sentiment.

After discussing the questions of modern theology under the heads of Agnosticism and the Theistic Problem—the Principle of Rationality—Speculative Gnosticism—Personality, our author concludes with a

section entitled The Final Idealism. This peroration, which is a little too rhapsodical for a philosophical treatise, shows that Professor Wenley by no means sympathises with the retrograde movement noticeable in contemporary German theology. He would apply the Hegelian method to the explanation of religious ideas if we would only assume the social sentiment as the key of theistic belief. God made man in his own image, but it was not the man as individual, but the man as an organic constituent of a social aggregate. "Rationalism, not in the peddling eighteenth century sense, but in the guise of a socialised reason, wherein all men are partakers, and whereby alone they can execute valid judgment upon the deep things of life, constitutes the ægis of a satisfactory theology" (p. 188).

T. W. Levin.

"The Ethical Library:" *The Teaching of Morality in the Family and the School.* By Sophie Bryant, D.Sc., Head Mistress of the North London Collegiate School for Girls, author of *Educational Ends* and *Studies in Character*, etc. London: Swan Sonnenschein & Co., Limited. New York: The Macmillan Co., 1897. Pp. 146.

The five main chapters of this work are devoted, says the author, to the discussion of "the problem of direct instruction in morality". "On the practical solution of this problem," Mrs. Bryant adds, "in each case depends the efficiency of all lessons—regular or incidental—that may be given on life and conduct" (p. 29). Chapter i. treats of "the intellectual processes involved in the study of morality,"—these seem to be activity of the logical and of the imaginative faculties which show present conduct in the light of future consequences. The practice of life must mainly depend upon the ideal of life which Mrs. Bryant denominates "conscience" (p. 61). Chapter ii. is entitled "The Moralising Instincts Developed by the Study of Morality". Moralising instincts are those instincts, our author explains, "that are in general serviceable to the moral ideal". They may be divided "into two groups—the personal and the social" (p. 68). The personal are comprised under the feeling termed self-respect, and the social tendencies take the form of sympathy, which Mrs. Bryant thinks is chiefly evoked through the imagination.

Chapter iii. sets forth the "Principles of Teaching". "The teacher," says the author, "is bound to inquire (1) what are the conditions fulfilled when a new idea is taken in? and (2) in what ways may the fulfilment of the conditions fail?" Throughout this chapter much stress is laid upon the inculcation of moral lessons by reflexion on some inspiring romance and bringing it to bear on every-day problems, which have interest for all normal minds. We commend the method and call particular attention to the author's remarks on the style and manner of good story-telling. Chapters iv. and v. deal with the aims and objects of moral teaching—(1) Virtuous Character and (2) Social Membership. Heroism tempered by amiability seems to form the ideal character portrayed in these pages, —unity of purpose and steadfastness of will are the elements of the *first;* while a wide sympathy and universal charity constitute the *second.* Very good is the habit much inculcated of honest self-criticism—"it is harder to own oneself wrong than even to forgive an injury" (p. 128). Altogether, this work is a sound practical contribution to the theory of moral education, the outcome of which should be a good man—and a good citizen.

T. W. Levin.

Dynamic Sociology, or Applied Social Science, as Based upon Statical Sociology and the less Complex Sciences. By Lester F. Ward. Vol. i., pp. xxix., 706; vol. ii., pp. vii., 633. Second edition. New York: D. Appleton & Co., 1897.

Dynamic Sociology is the art of improving society; happiness is its end; and its means is the universal diffusion of scientific information. The first volume traces the development of human society from an originally homogeneous matter which suffers primary aggregation in cosmogony, secondary aggregation in biogeny, psychogeny and anthropogeny, and tertiary aggregation in sociogeny. The second volume works back from the end of happiness through a chain of means—progress, dynamic action, dynamic opinion, knowledge—to education.

In developing the main thesis of his work, the author abstracts to the last degree from man's practical nature. The social unit is a centre of more or less information; truth is a large number of facts and generalisations which it is the business of education to impart. In so far as education leaves this task in order even to 'develop the intellect' it forsakes its proper function and is lost labour. The author does not show how the diffusion of abstract information is to be adequate to the realisation of a more perfect society; but he is convinced of its paramount importance, and seems to regard his theory as almost self-evident. He says, for instance, that 'the complete ignorance of so-called cultivated people as to the nature of cells in biology and of the fact that they have each been evolved from a simple cell, shuts them off from a knowledege of the most important truth of their existence'. This sentence is quite typical of Mr. Ward's whole point of view, which confuses importance within special sciences with importance in relation to conduct.

G. Sandeman.

Pseudo-philosophy at the end of the Nineteenth Century. By H. M. Cecil. I. *An Irrationalist Trio: Kidd, Drummond, Balfour.* London: The University Press, Limited, 1897. Pp. xvi., 308.

This, the first volume of Mr. Cecil's *Pseudo-philosophy*, is an elaborate castigation of the authors of *Social Evolution* (Mind, Oct., 1894), *The Foundations of Belief* (Mind, July, 1895) and *The Ascent of Man*. The writer lashes his irrationalist trio very much as Mr. J. M. Robertson in a recent work lashed the critics of Thomas Buckle. His position and purpose are frankly avowed: "the primary object of this volume is the refutation of the fallacies and errors contained in three books . . . which at the time ot their publication caused a literary sensation . . . without stirring the scientific world. . . . The state of the intellectual world in which such works can command an enormous sale . . . serves to enforce the lesson . . . that the conflict between science and religion, between rationalism and irrationalism, is by no means a thing of the past. . . . There can be no truce between the rationalist and the irrationalist."

It is not quite easy to see what kind of public Mr. Cecil expects to reach by his criticism. His book is too bulky, and too little independent of the books it attacks, to form palatable reading for the average educated man; while the philosophers *von Fach* will have passed their own criticism upon the 'trio'. Moreover, the doctrines so repellent to Mr. Cecil are notoriously such as appeal to bias and temperament; no amount of argument on either side will decide a man for or against them. On the other hand, the author is fully entitled to print his protest, if he will; and there is a tickle of suggestion in the bracketing of the three names

on the title-page which may tempt readers. It must be said, too, that the writer, if he has caught Mr. Robertson's spirit, has also caught something of his charm of style. Polemical from end to end, his book is distinctly entertaining to those who know its originals.

Hypnotism and its Application to Practical Medicine. By O. G. WETTERSTRAND. Translated from the German edition by H. G. PETERSEN.

Medical Letters on Hypno-suggestion. By H. G. PETERSEN. London and New York: G. P. Putnam's Sons, 1897. Pp. xvii., 117 + 48.

Dr. Wetterstrand is a follower of Liébeault, and therefore a member of the 'school' which includes Bernheim, Forel, etc. His book, which has already appeared in Swedish, German and Russian, consists of reports of cases in which he has employed hypnosis for therapeutic purposes, together with a brief introduction on the hypnotic state and an equally brief conclusion on the value of suggestive therapeutics in general. Its empirical and non-speculative character makes it a welcome and important contribution to hypnotic literature. The translation is accurate and readable.

Dr. Petersen, an enthusiastic adherent of the Nancy doctrines, writes sensibly on practical questions, but shows little grasp of his subject when he ventures on the ground of psychology and metaphysics. His *Letters* deal with the practical teachings of the use of psychology in medicine, with suggestive treatment in reform work, with post-hypnotic responsibility and with the question of music *v.* sermons for the insane.

A History of Elementary Mathematics: with Hints on Methods of Teaching. By F. CAJORI. New York and London: The Macmillan Co., 1896. Pp. viii., 304.

This book has a two-fold value for the psychologist. The history of any science, rightly told, constitutes a piece of social psychology; and mathematics has a special claim upon the psychological attention, in virtue of its unique position among the sciences. Prof. Cajori's work, however, has more than this general value. By its wealth of clearly worded illustration it gives us many glimpses of the way in which the human mind actually set about its task in the first days of mathematical thinking. If the reader is unfamiliar with the treatment of fractions in the Ahmes papyrus, let him procure this *History* and he will receive his reward.

Prof. Cajori is already favourably known by his larger *History of Mathematics* (1895). The present volume, which gives many references to the sources and is furnished with a good index, has been well received by the technical journals; so that the layman may read with faith. The book opens with a brief discussion of number-systems and numerals; and thereafter falls into three parts, dealing with the arithmetic, algebra, trigonometry and geometry of antiquity, the middle ages and modern times respectively.

Ethics of J. S. Mill; edited with Introductory Essays. By CHARLES DOUGLAS, M.A., D.Sc., Lecturer and Assistant in Moral Philosophy in the University of Edinburgh. Edinburgh and London: William Blackwood & Sons, 1897. Pp. cxxvi., 233.

The general scope of this work is well indicated in the Preface. "It has been very usual for students to confine their reading of Mill's ethics to

his 'Utilitarianism'; and this book is, of course, his principal exposition of his ethical opinions; but I think it unfortunate that the theory of morality which is conveyed in it should be divorced from the conception of the method of ethical science by which Mill's work as a moralist is determined; and I have therefore prefaced the 'Utilitarianism' by the chapters from his 'System of Logic' in which that conception is chiefly set forth. It has also seemed desirable to give an opportunity of supplementing the knowledge of Mill's ethics which is to be gained from a study of these chapters, and of 'Utilitarianism,' by quoting, as footnotes and appendices, passages from his other writings, which corroborate, supplement, or correct the statements of the text. It is hoped that in this way a reasonably complete account of Mill's ethical theory is presented." The work as a whole is extremely well done, and will be found very useful to students. The Introductory Essays give a clear and judicious account of Mill's general ethical position, bringing out both his strong points and his deficiencies.

G. F. S.

Man's Place in the Cosmos; and other Essays. By Andrew Seth, LL.D., Professor of Logic and Metaphysics in the University of Edinburgh. Edinburgh and London: Blackwood & Sons. Pp. viii., 308.

The volume before us consists of essays and addresses all of which have already been published. The essay which gives its title to the volume is a criticism of Professor Huxley's Romanes Lecture on *Evolution and Ethics.* Other essays deal with Münsterberg's *Psychology*, with Mr. Bradley's *Appearance and Reality*, and with Mr. Balfour's *Foundations of Belief.* Varied as the topics are, the breadth of Mr. Seth's treatment of them, and his persistent interest in the way of thinking which he describes as "humanism" or "ethicism," give to the contents of this volume a degree of unity which is sometimes lacking in more apparently systematic treatises. Critical notice will follow.

Charles Douglas.

Grains of Sense. By V. Welby. London: J. M. Dent & Co., 1897. Pp. xi., 146.

This little book consists of a collection of aphorisms and parables, all tending to enforce the same truth: that we are not careful in our use of language to say and understand precisely what is *meant*, but translate our assimilations into words at haphazard, content if a part of the meaning is conveyed and grasped. That the indictment is well grounded cannot be doubted, when we find a man like Preyer saying that the use of fundamental physical concepts strikes him as largely 'Modesache'; when we remember the different meaning that words like 'physiology' and 'psychology' carry to students trained at different universities; and when we see the wholesale charges of 'misunderstanding' bandied in scientific controversies. The book will do good service if it brings home to its readers the fact that meanings develop, as well as word-forms, and the corollary that we should give account to ourselves of our own and our interlocutor's mental parentage before we enter on a discussion of anything.

The Evolution of the Art of Music. By C. H. H. Parry. Intern. Scient. Series, vol. lxxvi. New York: D. Appleton & Co., 1896. Pp. x., 342.

In 1893 Dr. Parry published a work entitled *The Art of Music*, which is here reprinted (with an additional Note) under a more appropriate name

and in cheaper form. The importance of the book, and of the first four chapters especially, for ethnic psychology is very great; the discussions are sound and cautious, and the illustrations well chosen. The work should take its place in a psychological library beside Cajori's shorter *History of Mathematics*, and Mach's *History of Mechanics*.

A parallel volume is promised, to consist "almost entirely of musical excerpts . . . so arranged as to show the continuous process of the development of the musical art".

Matière et Mémoire: Essai sur la relation du corps à l'esprit. Par Henri Bergson, Docteur ès Lettres, Professeur de Philosophie au Lycée Henri IV. Paris: Félix Alcan, 1896. 8vo, pp. iii., 280.

This extremely able and interesting essay is a metaphysical study, which has, as M. Bergson tells us, grown out of a piece of psychological analysis, placed now in the course of the exposition in chapter iii. It maintains an extreme dualism of mind and body, only in order in the end to indicate a continuity between them. The meeting place is found in perception, in which two disparate elements are distinguished, one 'pure perception,' the other memory. Two propositions are laid down which, so far as we can judge from the difficult and over-figurative exposition, form the basis of the whole: the first is that being perceived differs from real existence only in degree not in kind (p. 25), the second that memory in the strict sense differs from perception in kind and is not a function of the brain at all. The author believes that the difficulties of idealism and materialism alike arise from giving to perception (*i.e.*, pure perception) a merely cognitive instead of a practical position. All things being described as 'images' (equivalent we suppose to 'ideas' in Locke's sense), representation arises in the particular 'image' called a body or brain through the selection by the brain of those aspects of a thing which interest it in its reactions upon the world of which the brain forms a part. Matter being the totality of images, perception of matter is the same images referred to the possible action of a determinate image—my body. Perception is thus a selection of images, a selection which depends upon what the author terms the 'indétermination du vouloir'. Consequently objects are perceived not in me (as idealism holds), but where they are in themselves. Perception is in fact a response of the body to other bodies, though it may readily be understood that this view implies certain relations between the movements amongst the particles of things and sensible qualities, to be afterwards explained.

Memory, on the other hand, which is, as a matter of fact, always found as an element in ordinary perception, is itself entirely independent of matter. Under memory we distinguish that form which is really mental habit (like memory of a language), and which takes effect in motor dispositions, from memories in the proper sense which we 'dream' rather than 'play' or perform. These latter memories are altogether independent of the brain, and it is urged that there are no memory centres. The brain is but a contrivance for transferring motions from the outside into motions towards the outside. Yet these memories have become attached to perceptions through the movements accompanying perception. On this depends recognition, in which a pure memory becomes thus materialised into a memory-image ('image-souvenir') by its utilising the motor processes which make up the functions of the brain. The author believes this to be borne out by the study of psychic blindness, on which he has some good remarks. There are thus (and this is the main psychological thesis) stages in the mind, the extreme stages being

composed of pure memories on the one hand, and perceptions, coloured by memory in its form of habit taking effect in movements, on the other. These stages are represented as different layers, but this is probably to be understood figuratively. Apart from the artificial conception of the soul, and from some questionable neurology, there is much good psychological analysis, which is indeed familiar in principle in England from the recent criticisms of associationist writers, but is presented here in an individual form (reminding the reader of Prof. Baldwin) through M. Bergson's insistence on the motor character of perception, and on the motor element involved in recognition.

Perception then, not pure, but in its familiar form, is a junction of two processes: the one working from the soul downwards, from memory to movement; the other upwards, from the external object to the finite centre which is the brain. The author then proceeds to show how the two apparent disparates, matter and mind, can thus meet by resolving the chief oppositions of the extended and the unextended, the quantitative and the qualitative, the free and the necessary. As to the first he maintains that matter is divided into pieces only for practical purposes, being in fact continuous, that both perception and matter are 'extensive,' while the space or extension which in thought belongs to matter as distinguished from mind is but a 'schema' which represents its practical divisibility. The quality of sensations as distinguished from the quantitative character of the movements of bodies he supposes to be due to the contraction produced by memory—every sensation containing the memory of the immediately preceding vibrations, and several millions of vibrations (as in light) being contracted into a second, whereas to perceive each separately would require years. Sensible qualities and quantitative movements differ thus in respect of 'tension,' and the author declares that the difference of body and mind is thus to be expressed in terms of time rather than of space. The meaning of liberty (so far as it can be made out from this work) has already been indicated in connexion with the selection produced by the organism in perception.

There is much to be learnt from M. Bergson's book. But there are some great difficulties left unresolved. (1) Perception which is said to select images may distort them—all the difficulties of the Kantian criticism are suggested thereby and they need notice. (2) The assumption of a peculiar memory which is aware of the past as such (with this may be compared Mr. L. T. Hobhouse's chapter on the subject) and which has no physiological substrate. The conception of the faculty itself offers difficulties enough, and the pathological evidence is surely quite insufficient. Even if there is no loss of images in psychic blindness (as the author contends) there may be loss of communication between image and perception. (3) Things are described as images; whose images are they? If only the observer's, why deny the sensorial character of the brain on the ground that the brain being itself an image cannot have images? Such an image might still have imagination. If things are images in the sense of psychic existences, the assumption is a very large one. Nor do we understand M. Bergson to say this; but the difficulty of the alternative remains.

S. Alexander.

La Logique de Hegel. Par Georges Noël. Professeur de Philosophie au Lycée Lakanal. Paris: Félix Alcan, 1897. Pp. viii., 188.

Mr. Noël's book forms a most admirable introduction to the study of Hegel. He has grasped the great truth, which so many commentators ignore, that Hegel produced something which he asserted to be a demonstrated

and coherent system, and that the main point in any thorough criticism of his teaching must be to inquire, not whether it is genial, or suggestive, or inspiring, but whether it has been proved to be true. From this it follows that it is impossible to make any serious study of Hegel without mastering the Logic. The Phenomenologie is nothing but an introduction, the other works are only applications. On the validity of the Logic everything depends.

It is not, however, the beginner only who will find this book valuable. It would be impossible for any one, however well acquainted with Hegel's own works, to read it without gaining new light on the system as a whole, and, in a still greater degree, on the details of the Logic.

The first chapter is devoted to a general account of the dialectic method. Here Mr. Noël strikes, we think, the right note at the beginning by pointing out that the method is by no means so mysterious and unparalleled as has been asserted. "Le système de Hegel n'est que celui de Kant débarrassé de ses inconséquences" (p. 5). Nor does it reject the principle of contradiction. "Si en effet l'esprit ne répugnait à la contradiction, s'il pouvait y demeurer et s'y complaire, le procès dialectique s'arrêterait de lui-même ou pour mieux dire il ne saurait commencer. Est-il en effet autre chose que l'effort continu de l'esprit pour s'affranchir de la contradiction?" (p. 15).

The general view taken by Mr. Noël of the validity of the dialectic agrees with that taken by Mr. Bradley in his Logic—that the motive force of the process lies, not in the beginning, but in the synthesis which forms the end. Thus he says, "Loin de faire de l'abstrait le principe du concret, il s'attache obstinément à montrer que celui-là ne se comprend que par celui-ci" (p. 11). And again, "Si la contradiction nous y amène et nous la fait découvrir, ce n'est pas elle qui la produit. Elle préexistait en nous à l'aperception de la contradiction et c'est sa présence qui, quoique non remarquée, nous permis de poser la thèse et l'anthithèse ainsi que leur rapport" (p. 16).

On these principles he finds no difficulty when, in chapter v. ("La Logique dans le Système"), he comes to deal with the transition from Logic to Nature which Prof. Seth finds so fallacious. "Prise dans son ensemble, la Logique soutient avec l'extra-logique un rapport analogue à celui qu'en son sein chaque catégorie soutient avec la suivante. Elle est un moment de l'Idée dont la Nature et l'Esprit sont les moments ultérieurs" (p. 117). This is followed by a careful discussion of the most perplexing feature in the transition – the emphasis which Hegel lays on the *freedom* of the passage to Nature (p. 124).

In chapters ii., iii. and iv., the three books of the Logic are discussed in detail. The Greater Logic is followed, where it differs from the Logic of the Encyclopædia. This course is obviously the most convenient for French students, since the Greater Logic has been translated into French, while the Smaller has not. And it must be admitted that the alterations which Hegel made in the argument when he composed the shorter version are scarcely improvements. On the other hand, the Smaller Logic presumably gives us Hegel's final view of the system.

These three chapters are in some respects the most valuable part of the book, but it is of course impossible to give any idea of their merits by extracts. A good example of Mr. Noël's clear and thoughtful exposition may be formed in his treatment of the very difficult transition from *Werden* to *Dasein* (p. 25).

The seventh chapter is entitled "Le Dogmatisme de Hegel". The author has no difficulty in showing that Hegelianism bears no very close relation to Spinozism. He then goes on to suggest that, of all the

philosophers of the seventeenth century, Leibniz most closely resembles Hegel (p. 141). This is a significant and profound remark. It is to be regretted that it was not developed at greater length. It would involve the whole question of Hegel's treatment of the individual. We should perhaps have to distinguish between the recognition of the individual which Hegel ought to have yielded, on his own premises, and the disparagement of the individual which may not infrequently be found in his applications of his system.

The discussion of Hegel's pantheism which follows is perhaps scarcely exhaustive. No doubt Hegel's God is neither an unrealised ideal nor a blind necessity. But the further question still remains whether he is a society or a person. Both the Logic and the Philosophy of Religion give some grounds for supposing that he—or rather it—must be conceived as a society, and in that case Pantheist might perhaps be the least inappropriate label for Hegel's theological position.

The book closes with a discussion of the relation of Hegel to contemporary thought. It is devoted mainly to the consideration of objections raised by positivists and neo-criticists. It is natural that every writer should give most attention to the criticisms which come from his own country, but it would have been very interesting and useful if Mr. Noël had seen his way to include Lotze and Mr. Bradley among the philosophers he discusses. They both stand much nearer to Hegel than Comte or Mr. Renouvier, and, for that very reason, their differences from Hegel are more significant. They require careful and thorough treatment from a Hegelian standpoint, which no one would be better qualified to give than Mr. Noël, if he feels inclined to increase the debt which all students of Hegel already owe him for his brilliant and scholarly work.

J. Ellis McTaggart.

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H. M. Dziewicki (edited by), *Johannis Wyclif Tractatus de Logica*, London, Trübner & Co., vol. i., 1893, pp. xlvi., 241; vol. ii., 1896, pp. xlvi., 236; vol. iii., 1899, pp. xxxviii., 239.

IX.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. vi., No. 2. **S. S. Laurie.** 'The Metaphysics of T. H. Green.' [Green's general conclusion is that "the universal mind which unifies the manifold we call the world into a related whole, finds, or rather effects, a self-realisation of itself in finite minds, which thus are competent to unify the manifold of sense into a related whole". Objections are: (1) it is a hypothesis; (2) a unifying principle of relations need not be a self-consciousness; (3) Green's analysis of the nature, process and necessities of finite mind is untrue; (4) his notion of God is inadequate to the demands of the human mind; (5) self-existing and free finite selves are incompatible with the system.] **E. Albee.** 'Gay's Ethical System.' ["The whole outline of Utilitarianism, in its first complete and unencumbered form, is to be found in Gay's Preliminary Dissertation."] **E. S. Haldane.** 'Jacob Boehme and His Relation to Hegel.' [Critical sketch of Boehme's philosophy, showing the points of resemblance between his thought and that of Hegel. Not a strong paper.] **J. E. Creighton.** 'Is the Transcendental Ego an Unmeaning Conception?' ["Our experience as it actually exists seems to give us as its correlate a variously coloured and multiple self" (psychological standpoint). The argument to a judging thought or transcendental ego, as distinct from thoughts and judgments, is based on the demand for unity which experience implicitly contains.] Discussions. **A. Llano.** 'Agnosticism and Disguised Materialism.' [There is no essential or fundamental difference between Bain and Spencer on the one hand and Buchner on the other.] Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

Vol. vi., No. 3. **J. M. Baldwin.** 'The Genesis of the Ethical Self.' [The child has two selves: the habitual, stable self, and the capricious, learning, accommodating self. One school of moralists derives the ethical sentiment from the former, from habit or custom; another from the latter, from sympathy. Both are wrong. The child gets to the 'ought' by way of a third self, shaped by obedience and taking the form of a law-giving personality.] **D. Irons.** 'The Nature of Emotion.' [Emotion is "not merely unanalysable, but also irreducible, and must therefore be regarded as an ultimate and primary aspect of mind".] **H. M. Stanley.** 'An Analysis of the Good.' [The good is based subjectively on evil, arising from ancestral pain: it also exists objectively by evil, my good being another's harm. Moreover, though good unrealised is bad, good is lost in the realisation. Hence men search for a metempirical, stable good: unsuccessfully. "The perfection of organism is humanity self-consciously organised for the development of experience. In this alone will human good be fully realised."] **M. Washburn.** 'The Process of Recognition.' [The consciousness of familiarity is "an unanalysable bit of conscious content".] **J. Seth.** 'The Standpoint and Method of Ethics.' [Judgments are of fact or value: hence there

are natural and normative sciences. As the former, ethics discovers the causation of morality; as the latter, its meaning. In both forms it is to be distinguished from the metaphysics of ethics. Illustrations (egoism and altruism, moral obligation); cautions (all scientific method the same; normative science does not transcend common sense).] Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

Psychological Review. Vol. iv., No. 2. **L. Farrand.** 'Proceedings of the Fifth Annual Meeting of the American Psychological Association.' **J. H. Hyslop.** 'Upright Vision.' [Touch associations must be excluded. The eye movement theory is thus ruled out. We may accept a form of the projection theory, very like Le Conte's, except that the line of reference must be understood simply as a perpendicular to the sensing surface.] **A. H. Lloyd.** 'The Stages of Knowledge.' [Sensation as stimulus or undifferentiated continuum is rather the lower limit than the first stage of knowledge. The law of knowledge is the identity of internal motive and external stimulus. Knowledge is thus part of and means to active self-expression. It begins with positive sensation, obedient to the law of relativity; and since self-expression is action, and action means control, spontaneity, and tension of the two (consciousness), that law becomes a law of objectivity, a principle of control, or (from the other side) a law of organic activity. Sensation rises to perception, "a process by which the past may be said to move over into the object and to abide there as an important phase of the present". "The percept is not-self, but also the incarnate self." The self acting fluently in language enters the world of conception. The alleged fourth stage of knowledge, intuition, is again a limiting value: not self-expression, but the vital impulse thereto fully mediated in an act.] Discussion and Reports. **G. T. Ladd.** 'The President's Address.' [Critique of Fullerton.] **G. M. Stratton.** 'Upright Vision and the Retinal Image.' [Reply to Hyslop.] **N. Wilde.** 'The Originality of Æsthetic Feeling.' [Appreciation of Grosse.] Psychological Literature. New Books. Notes.

Vol. iv., No. 3. **A. T. Ormond.** 'The Negative in Logic.' [In face of environment the primitive conscious organism experiences pulses of self-assertion. These are volitions, and are the central essence of judgment. Existential judgment implies the pulse *plus* an interesting representation; relational implies the existential universe *plus* competing alternatives within it. The judgment in general is derivative from prelogical (psychological) experience.—In an existential judgment the 'real' subject asserts itself, *pro* the compatible (affirmative), *contra* the incompatible (negative). Similarly in relational judgments: the 'real' subject is genus or universal within which affirmation or negation falls. Hence negation is not mediated by affirmation; the two are co-ordinate (Aristotle). The progress of the 'real' subject, however, is direct through the latter, indirect through the former. By function, negation simply removes; though by implication it may be something positive.—Critique of Benno Erdmann.] **W. James.** 'Contributions from the Harvard Psychological Laboratory.' I. **L. M. Solomons.** 'Discrimination in Cutaneous Sensations.' [Judgments of twoness are due to simple association between the sensations from the two points and the idea of two points; they do not necessarily vary with judgments of position, distance, area, etc.] II. **E. A. Singer.** 'Studies in Sensation and Judgment. (*a*) Differentiation of Sense Organs.' [Discreteness of end-organs of touch and cutaneous pain; Goldscheider's work on temperature is generally reproducible.] (*b*) 'Intensity.' [Two blows, of different intensity, excite the knee-jerk: length of kick is available as secondary criterion of intensity. Two hypotheses: either direct association of

jerk and intensity; or the group of muscle-sensations attending adaptation or reaction to stimulus is an immediate element of the intensity-idea.] (*c*) 'Judgment.' [Experiments on preperception. S. d. varies inversely with the number of possibilities of judgment presented (*cf.* reaction-time results). Experiments on general and specific judgments. By an ingenious method (worthy of further testing) the percentage of 'pure general judgments of difference' is determined: in three series it was 11·3, 7·7, 14·5. 'Noticeableness' and 'difference,' it is concluded, are both terms of various meanings. But this fact is generally recognised; and the author's final words—"The problem of psychophysics awaits a restatement"—are therefore misleading.] **S. Baker.** 'The Identification of the Self.' [There are two opposed theories; the associative or automatic, and the conative or volitional. The latter is preferable: introspection shows a feeling of effort, conscious energising. And the process of energising "actually calls up the characteristics of the past-self, and imitates them". This present mimicry of self, the devotion of the self to a self-set copy, constitutes the process or fact of self-identity, and is recognisable as such. Take, *e.g.*, the identity of self during pain. "In the presence of pain expectantly developed, I as a self actually endeavour to reproduce all the concomitance previously associated with pain of every sort; and myself is best satisfied when this is accomplished most accurately and fully."] Shorter Contributions. **G. R. Stetson.** 'Some Memory Tests of Whites and Blacks.' [Verses were read to blacks (av. age 12·57) and whites (av. age 11). Memory rank: blacks, 58·27 per cent.; whites, 58·09 per cent. Study rank: blacks, 64·73 per cent.; whites, 74·32 per cent.] **C. J. Hawkins.** 'Experiments on Memory Types.' [Rough experiments on school-children, and commercial and college students. For auditory memory, one reading is better than two, and three than one. For young pupils, successive visual memory is better than simultaneous; for older persons, the reverse holds. For young pupils, auditory memory is better than visual: for older, the reverse is true.] **C. L. Herrick.** 'The Propagation of Memories.' [Since cortical cells die, there can be no persistence of an actual physical memory-basis. Memory is continuous in virtue of "the totality of the interrelated [cortical] activities or the associational equilibrium".] **L. Farrand, J. McK. Cattell,** and **J. M. Baldwin.** 'Note on Reaction Types.' [Rosenthal has a longer muscular than sensorial reaction (7+4+7 experiments; no previous practice). Sieveking gives a normal muscular reaction (5 experiments; no practice) and cannot react sensorially at all. Neither subject was directed beforehand as to concentration of the attention. This experimental material is interpreted by Cattell and Baldwin, each in terms of his own theory.] Psychological Literature. New Books. Notes.

The Psychological Index, No. 3. A Bibliography of the Literature of Psychology and Cognate Subjects for 1896. Compiled by **H. C. Warren** and **L. Farrand,** with the co-operation of **B. Borchardt** and **N. Vaschide.** [Published in April, 1897: 2234 titles. The bulk of the work has fallen to Messrs. Warren and Farrand; but the Index has been made more complete than in previous years by the co-operation of the *Zeitschr. f. Psych.* and the *Année psychologique.* In future all three bibliographies will be practically the same; though the *Zeitschr.* list, coming last, will presumably be the most complete.]

Monograph Supplement, No. 4. Jan., 1897. **E. F. Buchner.** 'A Study of Kant's Psychology, with Reference to the Critical Philosophy.' [An elaborate monograph, pp. viii., 208. Notice will follow.]

American Journal of Psychology. Vol. viii., No. 3. **W. B. Pillsbury.** 'The Reading of Words: a Study in Apperception.' [An elaborate investigation of the processes involved in the reading of words flashed upon a screen. Value of letters, by form and position; value of letters shown by disfigurement; value of length and form of word as suggesting a word. Association between letters; association of word to total impression; value of preceding suggestion, preceding word of series, succession of exposures of same word, preceding work of hour or day, general disposition, knowledge of method. Struggle between peripheral and central factors in recognition. Special value of total word suggestion. Analysis of Wundt's scheme of intellectual classification; criticism.] Minor Studies from the Psychological Laboratory of Stanford University. Communicated by **F. Angell.** I. **M. A. Tucker.** 'Comparative Observations on the Involuntary Movements of Adults and Children.' [Hands and arms resting before the body tend to move inward, towards the median plane. When we see an object we do not necessarily tend to move towards it. Involuntary movement may be directed by vision, presented or represented. Children show no sex or age differences: they are governed by the same laws as adults.] Minor Studies from the Psychological Laboratory of Cornell University. Communicated by **E. B. Titchener.** XII. 'A Study of Certain Methods of Distracting the Attention.' i. **F. E. Moyer.** 'Addition and Cognate Exercises: Discrimination of Odours.' [A distraction must be continuous, capable of gradation, and uniformly applicable. Addition, writing words of a sentence backwards, spelling words backwards, and even translating into another language and then writing backwards, do not fulfil these conditions. Odour series offer some prospect of success.] XIII. **E. B. Talbot.** 'An Attempt to Train the Visual Memory.' [Experiments by two forms of the methods of reproduction. Good results.] Psychological Literature. Notes and News.

Revue Philosophique. April, 1897. **F. Le Dantec.** 'Pourquoi l'on devient vieux (1er art.).' [The growing old of unicellular organisms and of plants.] **F. Pillon.** 'La philosophie de Secrétan.—II. Morale.' [Doctrine of conscience as the will of God working in us who, as being His creatures, are consubstantial with Him. Solidarity of the race as the motive of charity, the fundamental virtue.] **J. Soury.** 'La thermométrie cérébrale.' [Account of Mosso's recent researches, which are held to confirm current views.] **L. Dugas.** 'Le Sommeil et la cérébration inconsciente.' **A. Fouillée.** 'Comte et Kant.' Analyses et comptes rendus, etc.

May, 1897. **Mouret.** 'La Notion mathématique de Quantité.' [Quantity is whatever can become part of a sum or be considered as sum of parts. This definition is introduced and justified by a previous analysis of the nature of addition and subtraction.] **F. Le Dantec.** 'Pourquoi l'on devient vieux (2er art.).' [Old age in animals and man. Due to the accumulation of solid or "skeletal" bye-products of vital process.] **J. Philippe.** 'Sur les transformations de nos Images mentales.' [Experimental. The subject is given an object to handle. Without seeing it he then draws a copy of the visual image which it calls up. He is afterwards called, after the lapse of some days, to draw a copy of the image as he then retains it. Three kinds of transformation occur. The image either tends to disappear or becomes more precise, though altered in form, or approximates to the general type of the class to which the object belongs.] **Ch. Féré.** 'Les perversions sexuelles chez les animaux.' Notes et documents. Analyses et comptes rendus, etc.

June, 1897. **Maldidier.** 'Étude sur la Hasard.' ["Le Hasard est une interférence quelquefois singulière, ordinairement imprévisible en raison de la complexité de ses facteurs ou du trop grand nombre et de la variabilité des influences perturbatrices auxquelles ils sont exposés, en tous cas non intentionnelle et relativement contingente, quoique nécessaire en soi à un moment donné et dans des circonstances données, entre deux ou plusieurs séries causales réciproquement et relativement indépendantes." The article abounds in acute observations and criticisms.] **F. Pillon.** 'La philosophie de Secrétan.—III. Observations historiques et critiques.' [Criticises the theory of liberty as self-causation. Shows that this doctrine was not held by Descartes as Secrétan supposes.] Notes et documents. Analyses et comptes rendus, etc.

Revue de Métaphysique et de Morale. 5e Année, No. 3. May, 1897. **Delbœuf.** 'Notes sur la mécanique.' [A paper on the metaphysical aspects of the fundamental ideas of physics.] **J.-J. Gourd.** 'Les trois dialectiques. *La dialectique religieuse.*' [Religious dialectic has an *object*, but not a *domain*, proper to itself. Theory has the '*given* world' for its domain; practice has the world which gives, *i.e.*, the *presentative*, as distinguished from the *presented*, world. What then can remain for religious dialectic? This question is treated at the beginning of the article, which proceeds through the discussion of several aspects of theology to the establishment of a "new point of departure".] **G. Remacle.** 'Recherche d'une méthode en psychologie (*suite*).' [Continuation of a former paper, for which see *R. de M. et M.*, 1896, pp. 129-59.] **A. Spir.** '*Nouvelles esquisses de philosophie critique* (fin). Essai sur les fondements de la religion et de la morale.' [The main subject of this paper is the immortality of the soul: and its conclusion is that personal immortality is a chimera, as little desirable as credible, and not only inconsistent with probability but incompatible with genuine morality and religion.] Études critiques, etc.

Zeitschrift für Psychologie und Physiologie der Sinnesorgane. Bd. xiii., Heft 1 und 2. **J. Friedrich.** 'Untersuchungen ueber die Einfluesse der Arbeitsdauer und der Arbeitspausen auf die geistige Leistungsfaehigkeit der Schulkinder.' [A valuable paper: too detailed for anything but the briefest summary. Increase of work time is paralleled by decrease of work quality. Extent is to be replaced by intensity: pauses should come after every period; we must decide whether the hour is not too large an unit; heavy work must come first in the day; afternoon work either to be given up entirely, or confined to easy topics.] **K. Ueberhorst.** 'Eine neue Theorie der Gesichtswahrnehmung.' [Perception is the product of a specific mental activity, whereby a peripheral sensation is combined with an existing sensation to a peculiar unity: the two sensations being apprehended by an unconscious intelligence as symbolising the same object.] **J. M. Vold.** 'Einige Experimente ueber Gesichtsbilder im Traum.' [Experimental questionnaire. Just before waking the visual apparatus takes on, in a certain measure, the state in which it was just before the subject fell asleep.] **M. Meyer.** 'Ueber die Rauhigkeit tiefer Toene.' [Low tones are not themselves discontinuous: their seeming discontinuity proceeds from concomitant noises.] Litteraturbericht.

Bd. xiii., Heft 3. **F. Bezold.** 'Demonstration einer kontinuierlichen Tonreihe zum Nachweis von Gehoerdefekten, insbesondere bei Taubstummen, und die Bedeutung ihres Nachweises fuer die Helmholtzsche Theorie.' [The range of audition (11 to 55,000 v.d. in the 1 sec.) is covered by eleven tuning forks and three piston whistles. Gaps in the

deaf-mute tone scale tell for Helmholtz, though confirmation by autopsy is desirable.] **T. Heller.** 'Ueber Aphasie bei Idioten und Imbecillen.' [Idiots and imbeciles cannot be classified by defects of speech: attention must be the basis of classification. There are two sorts of defects of speech: those which come from, and correspond to, the general defect of intelligence; and those which are really aphatic.] **Guillery.** 'Weitere Untersuchungen ueber den Lichtsinn.' [(1) Grey on white can be seen by a single retinal element when the photometric relations are 1 : 1·15; grey on black when they are 3·17 : 1. (2) The retinal distribution of the brightness elements for daylight is different from that of the brightness elements for adaptation to dark. The former are perhaps the rods, the latter the cones.] Litteraturbericht.

Bd. xiii., Heft 4 und 5. **J. von Kries.** 'Ueber Farbensysteme.' [A very clear and comprehensive paper. The writer finds a trichromatic system, shown in the equations (determined with the eye adapted for light, not for darkness) of the great majority of those endowed with normal colour vision; and two typically different dichromatic systems, deducible from it by reduction (subtraction of one colour component), and represented by the light-equations of the two forms of partial colour-blindness. Beside these, and standing in no determinable relation to them, is the monochromatic system of congenital total colour-blindness, which is identical with the colour system of trichromates and dichromates in twilight-vision. These results are brought into connexion with the author's general theory of vision.] **L. W. Stern.** 'Psychische Praesenzzeit.' [The different processes contained in a given time-period may constitute a unitary 'act of consciousness,' despite their temporal dissociation. Present time, in direct time perception, is a brief time-period. Times can be 'projected' in reduced scale into the present time (*cf.* dreams). In 'primary' memory we experience immediately, perceive, the identity of impression and image; in true memory we infer it. The conscious present has a special most favourable or 'optimal' duration for every special contents.] Litteraturbericht.

Bd. xiii., Heft 6. **H. Ebbinghaus.** 'Ueber eine neue Methode zur Pruefung geistiger Faehigkeiten und ihre Anwendung bei Schulkindern.' [Methods previously employed are those of 'calculation' (simple additions and multiplications) and 'memory' (writing out of words heard). The new method is the method of 'combination'. A printed text is mutilated, the length of the omitted syllables and words being roughly indicated by lines; and the child is required to fill out the gaps as quickly as possible, keeping the sense of the passage in view.] **T. Elsenhans.** 'Nachtrag zu Ebbinghaus' Kombinationsmethode.' [Proposes to combine the memory method with that of Ebbinghaus, by having the unmutilated text read aloud before the filling out of the mutilated pages is begun.] **Breuer.** 'Ueber den Einfluss des Maculapigments auf Farbengleichungen.' [Comparison of macular and extramacular (central and paracentral) colour equations, undertaken at von Kries' suggestion. Absorption-values increase with decreasing wave-length. The living fovea is pigmented. As the absorption-values are not very considerable, it is improbable that individual differences are of any great moment.] **G. Heymans.** 'Erwiderung.' [Reply to Titchener.] Litteraturbericht.

Philosophische Studien. Bd. xiii., Heft 2. **G. A. Tawney.** 'Ueber die Wahrnehmung zweier Punkte mittelst des Tastsinnes, mit Rücksicht auf die Frage der Uebung und die Entstehung der Vexirfehler.' [Weber's law that the limina are greater on the long than on the short

axis of the body holds only for the extremities. Valentin's law that the relative liminal values at different parts of the cutaneous surface are approximately equal holds only in a very rough way. Vierordt's law of the relation of the linnen to movement does not hold. Volkmann's law that practice of any part practises the symmetrical part is true as far as it goes: really, however, the practice results are more widely diffused. This 'practice' is a process 'of the fulfilment of an autosuggestion in the consciousness of the subject'. The illusory perception of two points (puzzle experiment) is a product of the autosuggestion set up by practice. The way is paved for autosuggestion by "abstraction from the objective impression and its visual complications, and by the aim of making the limen as small and exact as possible".] **M. Arrer.** 'Ueber die Bedeutung der Convergenz und Accommodat ionsbewegungen fur die Tiefenwahrnehmung (II.).' [Estimation of depth has a variety of conditions. Yet the results of all experiments point to the constant operation of a single factor. Now the particular form of the limited field of vision was different in all the sets of experiments; the distance-object varied; the brightness varied in Wundt's experiments, though not in Hildebrand's. We have left the movements of convergence and accommodation: and these did, in fact, furnish the measure of comparison for the depth ideas. An exhaustive and extremely careful paper.] **R. von Schubert-Soldern.** 'Erwiderung auf Prof. Wundt's Aufsatz ueber naïven und kritischen Realismus.' [Wundt has wrongly bracketed names together; confused critical with naïve realism, etc. The relation of experience and consciousness; criticism of Wundt and Rickert. The problem of transcendence: "solipsism is epistemologically undeniable, but practically or causally nonsensical". Critique of Wundt's statement that primitive experience is "not the object that lies within, but the object that lies without consciousness".] **W. Wundt.** 'Einige Bemerkungen zu vorstehendem Aufsatze.' [Meets the above objections point by point.]

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE. Jahrg. xxi., Heft 3. **A. Riehl.** 'Bemerkungen zu dem Problem der Form in der Dichtkunst (I.).' [Exposition of A. Hildebrand's theory of art. Objects seen in the far distance with parallel optical axes are presented with a unity and completeness which is impossible in near vision. It is the aim of sculpture and painting to present their objects with the same kind of unity and completeness: to reproduce rather the ideal image than the perception. This unity and completeness must belong not merely to the separate items of a picture or sculpture, but to the picture or sculpture as a whole.] **O. Krebs.** 'Der Wissenschaftsbegriff bei H. Lotze (*Schluss*).' [Lotze's attitude to the method of Hegel and of the materialists and to universal methods in general. Criticism of Lotze's views on scientific methods. Distinction between common-sense and science according to Lotze. His view of the object of science, as consisting in problems. He demands a preliminary sifting of scientific questions from those which are not scientific, but does not fulfil his own requirement. Indeed, in his *Philosophy of Religion* and elsewhere, he treats as problems of science questions which, on his own showing, ought to be excluded as unscientific. His monistic position irreconcilable with his views on the nature of science.] **R. Willy.** 'Die Krisis in der Psychologie (III.).' [Criticism of Brentano's distinction between simple apprehension and judgment, and of his doctrine of intentional in-existence, with special reference to Twardowski's pamphlet on *Inhalt und Gegenstand der Vorstellungen*. Criticism of similar doctrines in Stumpf

and Uphues, and of Brentano's theory of the Intensity of Sensation.] Berichterstattung, Besprechung, etc.

Archiv für Systematische Philosophie. Bd. iii., Heft 3. **S. Witasek.** 'Beiträge zur speciellen Dispositionspsychologie.' [Considers the nature of the mental disposition corresponding to the shape-qualities of Ehrenfels, the "fundierte Inhalte" of Meinong. Deals especially with the question how far such dispositions are formed and developed by practice (*Übung*).] **A. Marty.** 'Grammatisches, logisches und psychologisches Subject (*Schluss*).' [Maintains the general coincidence of grammatical and logical subject as against B. Erdmann on the one hand and Wegener, Gabelenz and Lipps on the other.] **H. Schwarz.** 'Uphues' Lehre vom Inhalt und Gegenstand.' [It is pointed out that Uphues treats the abstract form of reference to an object in general as if it were an operative factor determining the reference to specific objects. It is also urged that Uphues makes the specific modification of subjective consciousness in and through which an object is apprehended itself a kind of intermediate object. The writer's own analysis of the cognitive act is good and avoids these fallacies.] **M. Dessoir.** 'Beiträge zur Aesthetik.' [Investigates the nature of "Psychognosis"—that practical knowledge of men's minds which belongs to the man of the world and to the literary artist.] **P. Natorp.** 'Deutsche Schriften zur Erkenntnistheorie, 1894, 95.' **V. Brochard.** 'Compte-rendu des ouvrages philosophiques publiés en France, 1895.'

Philosophisches Jahrbuch. Bd. x., Heft 2. **V. Frins, S. J.** 'Zum Begriffe des Wunders. [This, the first of two papers on miracles, attacks the theory that a miracle is, *in every case*, the action of an unknown physical law. Such a law could not, for example, account for the raising of the dead.] **L. Schütz.** 'Der Hypnotismus.' [After having in a previous article described the phenomena of hypnotism, the writer goes on to prove that they are natural, by comparing them with the symptoms of various diseases, and those produced by certain stimulants.] **I. Uebinger.** 'Die mathematischen Schriften des Nik. Cusanus.' [In this biographical article, the rest of the learned Cardinal's mathematical works are noticed. In conclusion, the writer dwells upon his union of theology with mathematics, and his theory of infinitesimal quantities, the germ of modern discoveries.] **A. Linsmeier.** 'Inhalt der chemisch-physikalischen atomhypothese.' [This, the first of two articles, is little more than a compendium of the chemical laws and hypotheses concerning atoms and molecules.]

Rivista Italiana di Filosofia. January-February. **L. Credaro.** "Maurizio Guglielmo Drobisch; Riccardo Enrico Luigi Avenarius.' **G. Cimbali.** 'Per l'Insegnamento della Filosofia del Diritto in Italia.' [An important contribution to the history of the study of the Philosophy of Rights in Italian Universities.] **G. Zuccante.** 'Condotta Buona e Condotta Cattiva secondo lo Spencer.' **N. R. D'Alfonso.** 'Alimento e Educazione organica.' **A. Valdarinni.** 'Esperienza e Discorso in Leonardo da Vinci.' [The work of Roger Bacon did not bear fruit until the time of Leonardi da Vinci, whose method was not merely empirical, but scientific, inasmuch as he did not exclude reason and the application of mathematics from the study of Nature. It is by his Method that Da Vinci was the "glorious precursor" of Bacon. In addition to the interesting account here given of Da Vinci's Physics, there still remains room for his views on Æsthetics and Art.] Bibliografia, etc.

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